

RELY ON EXCELLENCE

Espey WD200/500

Carbon Floating Ring Seals | Shaft seals



Features

- Multi-part seal rings, radially cut on process side, overlapped mortised with gas tight joints on atmosphere side (adjusting)
- Split housing design
- Lowest possible operation gap - lowest leakage
- Dry running
- Self-adjusting seal rings
- Seal rings bear radial shaft movements
- Compensates axial shaft movements
- Short axial installation length
- No sealing components mounted on the shaft and hence no additional shaft vibrations

Advantages

- Easy installation by split housing design (shaft removal not required)
- Long-term operation time
- Maintainability
- Segmented seal rings for easy replacement

Operating range

Shaft diameter:

$d = 45 \dots 340 \text{ mm} (1.77'' \dots 13.89'')$

Operating pressure: $p = \text{vacuum} \dots 3 \text{ bar} (44 \text{ PSI}) \text{ abs.}$ (depends on peripheral velocity)

Operating temperature: $t = -120 \text{ }^\circ\text{C} \dots +500 \text{ }^\circ\text{C}$

$(-184 \text{ }^\circ\text{F} \dots +932 \text{ }^\circ\text{F})$ for carbon,

$-120 \text{ }^\circ\text{C} \dots +150 \text{ }^\circ\text{C} (-184 \text{ }^\circ\text{F} \dots +302 \text{ }^\circ\text{F})$ for PTFE compound

Sliding velocity:

$vg = \text{max. } 40 \text{ m/s} (131 \text{ ft/s})$

Radial play: $\pm 2.5 \dots 5.0 \text{ mm} (\pm 0.1'' \dots 0.2'')$

Axial movement: theoretically unlimited

Recommended wear guard: $>58 \text{ HRC}$

Materials

Seal ring: Carbon, PTFE compound

Housing: 1.4021, 1.4571, Hastelloy®, Titanium,

Inconel®, others

Tension spring / detent: 1.4571, Hastelloy®,

Titanium, Inconel®

Standards and approvals

- FDA
- Compliant to TA Luft (German Clean Air Act)*

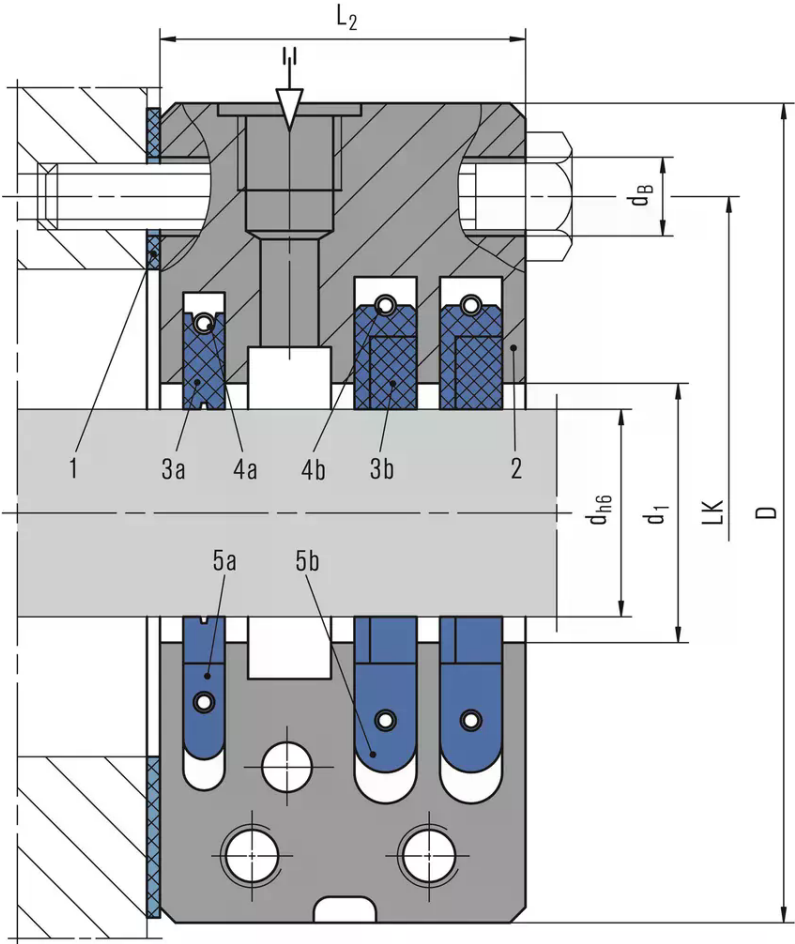
(* Carbon floating ring seals are not specifically mentioned in the TA Luft but may be a solution in certain applications. Their use must be verified with the approval authorities.

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
- Chemical industry
- Waste incineration and removal industry
- Metal production and processing
- Pulp and paper industry
- Lime, cement and gypsum industry
- Food processing industry
- Power plant technology
- Machinery and plant building
- CCUS
- Power generation
- CO2 transportation and storage
- Medium-sized and large fans / blowers
- Bearing seals (gear box, motors)
- Steam turbines
- Mixers, agitators, dryers
- Mills (ball, hammer, beater mills)
- Centrifuges

RELY ON EXCELLENCE

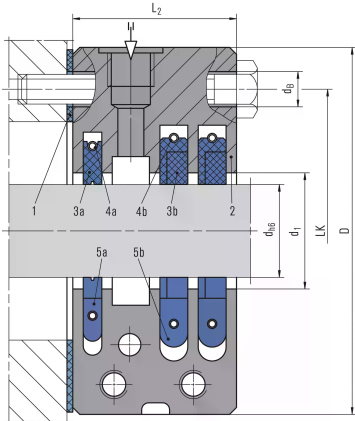
- Cantilever pumps



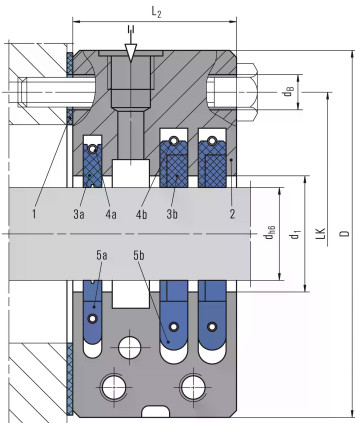
| Item | Description |
|------|-----------------------|
| 1 | Flat seal |
| 2 | Housing, 2-piece |
| 3a | Seal ring WD 200 |
| 3b | Seal ring WD 500 |
| 4a | Tension spring WD 200 |
| 4b | Tension spring WD 500 |
| 5a | Detent WD 200 |
| 5b | Detent WD 500 |

RELY ON EXCELLENCE

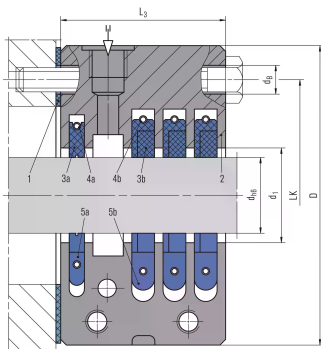
Product variants



Espey WD200/500-WD1S1
with barrier gas port. The arrangement guarantees a focused barrier gas flow to the process side and keeps gases, solids and mists off the sealing area. In addition the leakage to the outside is reduced.

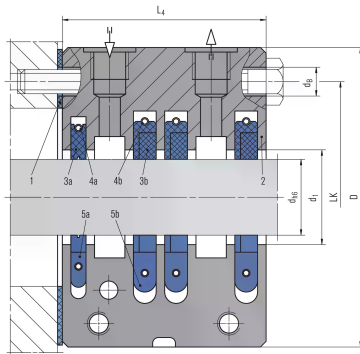


Espey WD200/500-WD1S2
with barrier gas port. The arrangement guarantees a focused barrier gas flow to the process side and keeps gases, solids and mists off the sealing area. In addition the leakage to the outside is reduced.



Espey WD200/500-WD1S3
with barrier gas port. The arrangement guarantees a focused barrier gas flow to the process side and keeps gases, solids and mists off the sealing area. In addition the leakage to the outside is reduced.

RELY ON EXCELLENCE



Espey WD 200/500-WD1S2A1

with barrier gas port and recirculation. The arrangement guarantees a focused barrier gas flow to the process side and keeps gases, solids and mists off the sealing area. In addition the leakage to the outside is reduced and residual gases and condensates will be purged.

Dimensions

| d _{h6} | d ₁ | D | LK | n x Ød _B | S | V | L ₁ | L ₂ | L ₃ | L ₄ |
|-----------------|----------------|-----|-----|---------------------|----------|----------|----------------|----------------|----------------|----------------|
| 45 | 50 | 175 | 135 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 45 | 55 | 70 | 85 |
| 50 | 58 | 180 | 140 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 45 | 55 | 70 | 85 |
| 60 | 70 | 190 | 150 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 45 | 55 | 70 | 85 |
| 70 | 80 | 200 | 160 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 45 | 55 | 70 | 85 |
| 80 | 90 | 210 | 170 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 45 | 55 | 70 | 85 |
| 90 | 100 | 220 | 180 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 45 | 55 | 70 | 85 |
| 100 | 110 | 230 | 190 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 50 | 60 | 75 | 90 |
| 110 | 120 | 240 | 200 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 50 | 60 | 75 | 90 |
| 120 | 130 | 250 | 210 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 50 | 60 | 75 | 90 |
| 130 | 140 | 260 | 220 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 50 | 60 | 75 | 90 |
| 140 | 150 | 270 | 230 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 50 | 60 | 75 | 90 |
| 150 | 160 | 280 | 240 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 50 | 60 | 75 | 90 |
| 160 | 170 | 290 | 250 | 4 x Ø15 | 1 x G1/2 | 1 x G1/2 | 50 | 60 | 75 | 90 |
| 170 | 180 | 300 | 260 | 6 x Ø19 | 1 x G1/2 | 1 x G1/2 | 50 | 60 | 75 | 90 |
| 180 | 190 | 310 | 270 | 6 x Ø19 | 1 x G1/2 | 1 x G1/2 | 50 | 60 | 75 | 90 |
| 190 | 200 | 320 | 280 | 6 x Ø19 | 1 x G1/2 | 1 x G1/2 | 50 | 60 | 75 | 90 |
| 200 | 210 | 340 | 290 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 210 | 220 | 350 | 300 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 220 | 230 | 360 | 310 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 230 | 240 | 370 | 320 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 240 | 250 | 380 | 330 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 250 | 260 | 390 | 340 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 260 | 270 | 400 | 350 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 270 | 280 | 410 | 360 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 280 | 290 | 420 | 370 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 290 | 300 | 430 | 380 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 300 | 310 | 440 | 390 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 310 | 320 | 450 | 400 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 320 | 330 | 460 | 410 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 330 | 340 | 470 | 420 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |
| 340 | 350 | 480 | 430 | 6 x Ø19 | 2 x G1/2 | 1 x G1/2 | 50 | 65 | 80 | 95 |

Dimensions in mm S = Barrier gas port A = Recirculation Special sizes on request.