



type

SINGLE  
MECHANICAL  
SEAL

**D320**

ALL DIMENSIONS ACC. TO  
EN 12756 (DIN 24960)

Rotary parts with shrink-fitted carbon graphite ring, unbalanced, with single spring, dependent on direction of rotation.

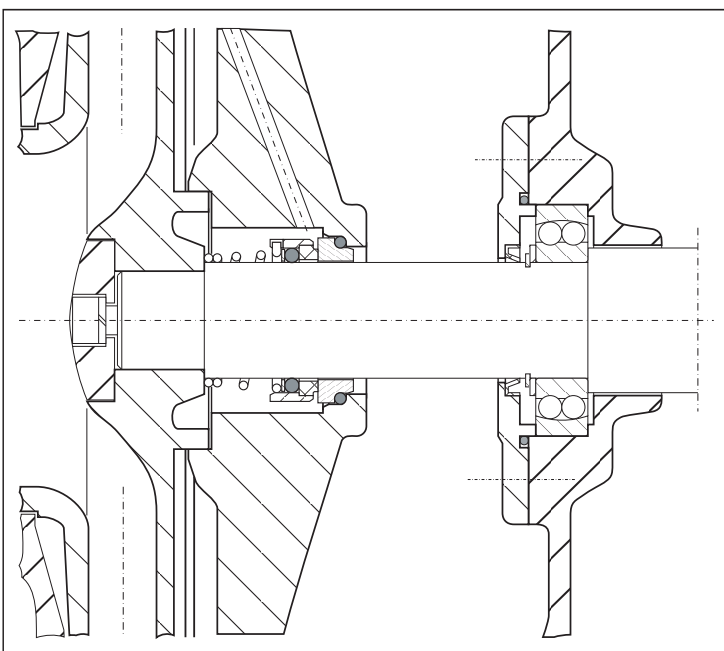
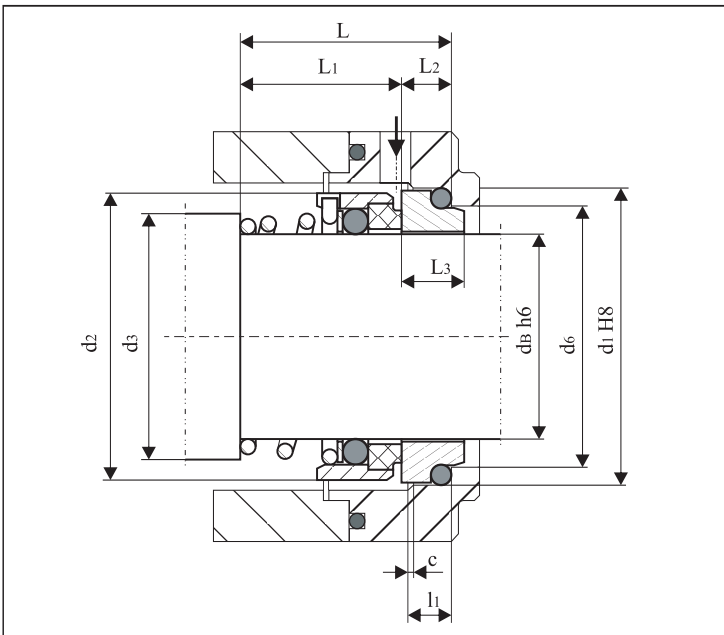
**OPERATING LIMITS**

|               |                           |
|---------------|---------------------------|
| Pressure      | - P=1,0 MPa               |
| Temperature   | - t= 240°C                |
| Sliding speed | - V <sub>n</sub> = 20 m/s |

**DESIGN FEATURES**

- Sealing faces materials:
  - carbon graphite for the rotary parts
  - tungsten carbide, silicon carbide or Al<sub>2</sub>O<sub>3</sub> for the stationary part
  - special stainless steels
- Secondary seals materials:
  - NB-rubber up to t=90°C ( petrol, oil )
  - EP-rubber up to t=130°C ( water, steam )
  - FPM - up to t=200°C (oil, corrosive solutions)
  - PTFE - up to t=240°C ( highly corrosive solutions)
  - FEP Encapsulated - up to t=205°C
  - PFA Encapsulated - up to t=260°C
- All metal parts are made of stainless steel

An example of D320 seal mounting scheme.

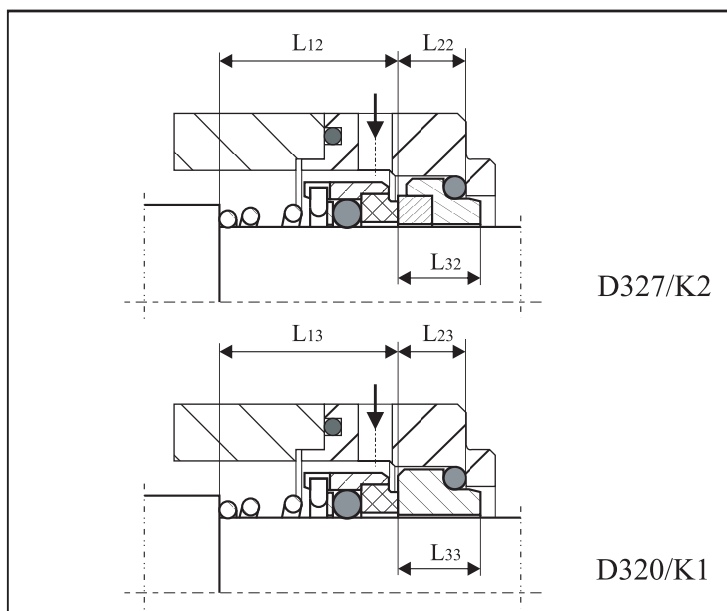


### GENERAL DIMENSIONS (mm)

| d <sub>B</sub> | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | d <sub>6</sub> | L    | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | l <sub>1</sub> | C   | L <sub>12</sub> | L <sub>22</sub> | L <sub>32</sub> | L <sub>13</sub> | L <sub>23</sub> | L <sub>33</sub> |
|----------------|----------------|----------------|----------------|----------------|------|----------------|----------------|----------------|----------------|-----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 6              | 16,0           | 16             | 8              | 11,5           | 16,5 | 11,9           | 5,6            | 8,0            | 5,0            | 1,2 | -               | -               | -               | 10,5            | 7,1             | 9,0             |
| 8              | 19,2           | 18             | 11             | 15,5           | 22,5 | 16,9           | 7,0            | 8,0            | 5,0            | 1,2 | -               | -               | -               | 15,5            | 7,1             | 9,0             |
| 10             | 19,2           | 20             | 13             | 15,5           | 22,5 | 16,9           | 6,6            | 8,0            | 5,0            | 1,2 | -               | -               | -               | 15,5            | 7,1             | 9,0             |
| 12             | 21,6           | 22             | 16             | 17,5           | 23,0 | 17,4           | 5,6            | 8,0            | 5,0            | 1,2 | -               | -               | -               | 15,5            | 7,6             | 10,0            |
| 14             | 24,6           | 24             | 18             | 20,5           | 23,0 | 17,4           | 5,6            | 8,0            | 5,0            | 1,2 | -               | -               | -               | 15,5            | 7,6             | 10,0            |
| 15             | 24,6           | 25             | 19             | 20,5           | 24,0 | 17,4           | 6,6            | 9,0            | 5,0            | 1,2 | -               | -               | -               | 15,5            | 8,6             | 11,0            |
| 16             | 28,0           | 26             | 21             | 22,0           | 26,5 | 19,5           | 7,5            | 9,5            | 6,5            | 1,5 | 16,5            | 10,0            | 12,5            | 17,5            | 9,0             | 11,5            |
| 18             | 30,0           | 31             | 23             | 24,0           | 28,5 | 20,5           | 8,0            | 10,5           | 6,5            | 1,5 | 18,0            | 10,5            | 13,5            | 18,5            | 10,0            | 12,5            |
| 20             | 35,0           | 34             | 26             | 29,5           | 29,5 | 22,0           | 7,5            | 10,0           | 6,5            | 1,5 | 19,0            | 10,5            | 13,5            | 20,0            | 9,5             | 12,5            |
| 22             | 35,0           | 36             | 28             | 29,5           | 31,0 | 23,5           | 7,5            | 10,0           | 6,5            | 1,5 | 20,5            | 10,5            | 13,5            | 21,5            | 9,5             | 12,5            |
| 24             | 38,0           | 38             | 30             | 32,0           | 32,5 | 25,0           | 7,5            | 10,0           | 6,5            | 1,5 | 22,0            | 10,5            | 13,5            | 23,0            | 9,5             | 12,5            |
| 25             | 38,0           | 39             | 31             | 32,0           | 34,0 | 26,5           | 7,5            | 10,0           | 6,5            | 1,5 | 23,5            | 10,5            | 13,5            | 24,5            | 9,5             | 12,5            |
| 26             | 40,0           | 40             | 32             | 34,0           | 34,5 | 26,5           | 8,0            | 10,5           | 6,5            | 1,5 | 23,5            | 11,0            | 14,0            | 24,5            | 10,0            | 13,0            |
| 28             | 42,0           | 42             | 35             | 36,0           | 35,5 | 26,5           | 9,0            | 11,5           | 6,5            | 1,5 | 24,5            | 11,0            | 14,0            | 24,5            | 11,0            | 14,0            |
| 30             | 45,0           | 44             | 37             | 39,2           | 35,5 | 25,0           | 10,5           | 13,0           | 6,5            | 1,5 | 24,5            | 11,0            | 14,0            | 24,5            | 11,0            | 14,0            |
| 32             | 48,0           | 46             | 39             | 42,2           | 39,0 | 28,5           | 10,5           | 13,0           | 6,5            | 1,5 | 28,0            | 11,0            | 14,0            | 28,0            | 11,0            | 14,0            |
| 35             | 52,0           | 49             | 43             | 46,2           | 39,5 | 28,5           | 11,0           | 13,5           | 6,5            | 1,5 | 28,0            | 11,5            | 14,5            | 28,0            | 11,5            | 14,5            |
| 38             | 55,0           | 54             | 47             | 49,2           | 42,5 | 32,2           | 10,3           | 13,0           | 6,5            | 1,5 | 31,0            | 11,5            | 14,5            | 31,0            | 11,5            | 14,5            |
| 40             | 58,0           | 56             | 49             | 52,2           | 45,5 | 34,7           | 10,8           | 13,5           | 6,5            | 1,5 | 34,0            | 11,5            | 14,5            | 34,0            | 11,5            | 14,5            |
| 42             | 62,0           | 58             | 52             | 53,3           | 49,3 | 37,3           | 12,0           | 14,5           | 8,0            | 2,0 | 35,0            | 14,3            | 17,0            | 35,0            | 14,3            | 17,0            |
| 45             | 64,0           | 61             | 55             | 55,3           | 50,8 | 39,2           | 11,6           | 14,5           | 8,0            | 2,0 | 36,5            | 14,3            | 17,0            | 36,5            | 14,3            | 17,0            |
| 48             | 68,4           | 64             | 58             | 59,7           | 56,3 | 44,7           | 11,6           | 14,5           | 8,0            | 2,0 | 42,0            | 14,3            | 17,0            | 42,0            | 14,3            | 17,0            |
| 50             | 69,3           | 66             | 61             | 60,8           | 57,3 | 45,7           | 11,6           | 14,5           | 8,0            | 2,0 | 43,0            | 14,3            | 17,0            | 43,0            | 14,3            | 17,0            |
| 55             | 75,4           | 71             | 66             | 66,5           | 62,3 | 49,0           | 13,3           | 16,0           | 8,0            | 2,0 | 47,0            | 15,3            | 18,0            | 47,0            | 15,3            | 18,0            |
| 58             | 78,4           | 78             | 69             | 69,5           | 65,3 | 52,0           | 13,3           | 16,0           | 8,0            | 2,0 | 50,0            | 15,3            | 18,0            | 50,0            | 15,3            | 18,0            |
| 60             | 80,4           | 79             | 71             | 71,5           | 66,3 | 53,0           | 13,3           | 16,0           | 8,0            | 2,0 | 51,0            | 15,3            | 18,0            | 51,0            | 15,3            | 18,0            |
| 65             | 85,4           | 85             | 77             | 76,5           | 67,3 | 54,3           | 13,0           | 16,0           | 8,0            | 2,0 | 52,0            | 15,3            | 18,0            | 52,0            | 15,3            | 18,0            |
| 68             | 91,5           | 88             | 80             | 82,7           | 69,0 | 55,3           | 13,7           | 16,0           | 8,0            | 2,0 | 52,7            | 16,3            | 19,0            | 53,0            | 16,0            | 19,0            |
| 70             | 92,0           | 90             | 83             | 83,0           | 69,3 | 56,3           | 13,0           | 16,0           | 8,0            | 2,0 | 54,0            | 15,3            | 18,0            | 54,0            | 15,3            | 18,0            |
| 75             | 99,0           | 98             | 88             | 90,2           | 70,3 | 56,3           | 14,0           | 17,0           | 8,0            | 2,0 | 54,0            | 16,3            | 19,0            | 55,0            | 15,3            | 18,0            |
| 80             | 104,0          | 103            | 93             | 95,2           | 74,3 | 59,3           | 15,0           | 17,5           | 8,0            | 2,0 | 58,0            | 16,3            | 19,0            | 58,0            | 16,3            | 19,0            |

#### NOTES:

1. Permissible installing deviations of the L dimension up to  $\pm 1$  mm.
2. When placing an order specify the shaft rotation direction.  
( From the stationary seat face point of view the shaft rotates to the right, if it moves clockwise).
3. See pages 45-49 for stationary seats type
4. See pages 50-51 for seals designation and material codes



D320 mechanical seal with stationary seats type K1 and K2.

Can be produced with stationary seats type:

K3, K4, K5, K6, K7, K8, K9, K10, K11, K12