

Floating Oil Sealing Ring

Floating oil sealing rings were developed for use in RENK slide bearings. These two-piece sealing rings are freely movable in a seal carrier or directly in the bearing housing. Both halves are held together by a garter spring. The ends form a lock and are twisted together.

The oil sealing ring is one of the range of floating seals, i.e. in the case of horizontal machines it is held on the shaft by its own weight.

Radial clearance between the sealing ring and the seal carrier or the housing can be 1...6 mm, depending on size and application. This prevents damage to the oil sealing ring by the shaft due to finishing inaccuracies or during assembly (e.g. during shaft alignment).

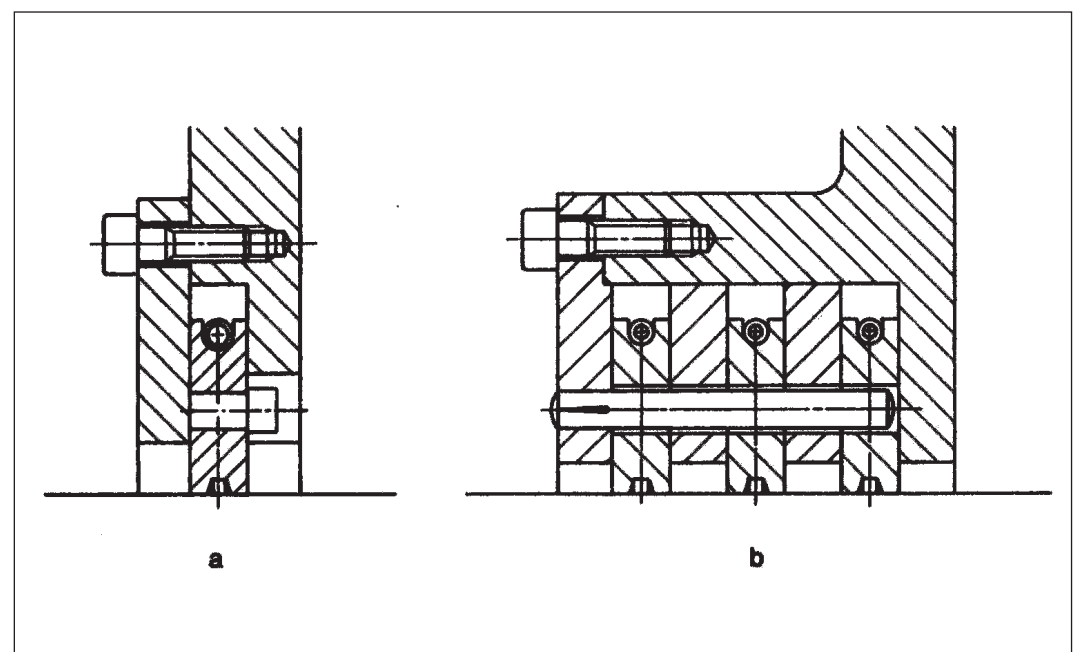
Floating oil sealing rings are manufactured in a range from 100 to 1000 mm. The diameters are graded as per standard scale R 20 within a range of 100 to 315 mm, and as per scale R 40 for larger sizes up to 1000 mm. The corresponding shaft diameters should be considered for a e8 tolerance.

Because of large-quantity production the individual seal can be offered at a favourable price.

The split design, the excellent temperature, radiation and chemical resistance, together with high dimensional stability under heat, permit application of the oil sealing rings not only in slide bearings but also in other locations on electric machines, fans or compressors. Shaft outlets through end plates of electric machines (Example a) or side walls of hot gas blowers (Example b) are given here as examples.

In the case of example b) the sealing effect is improved by fitting a series of oil sealing rings in parallel.

During final assembly the sides of the floating oil sealing rings should be lightly coated with a non-hardening sealing compound such as for instance Curil T.



Material

These seals are made from a high temperature resistant synthetic (RENKplastic therm P 50) for the diameter range of 100 to 335 mm, whilst for the larger diameters up to 1000 mm an epoxy fabricbase lami-

nate is used. Both materials are electrically insulating.

The table contains further typical and electrical values of the RENKplastic therm P 50 material.

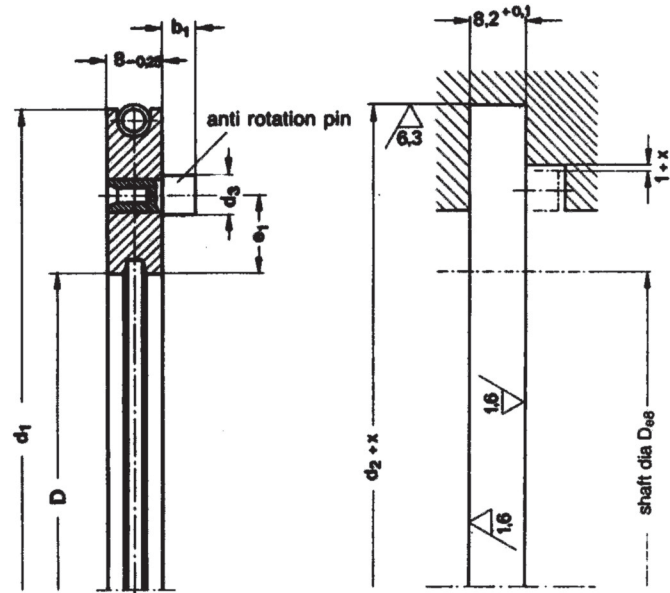
Additives

PTFE	1 %
Glass fibre	30 %

Physical parameters

Tensile strength (N/mm ²)	at 25 °C	198
	at 150 °C	138
Tensile elongation (%)	at 25 °C	5
	at 150 °C	6
Flexural E modulus (N/mm ²)	at 25 °C	11,3 · 10 ³
	at 150 °C	10,6 · 10 ³
Coefficient of linear thermal expansion ($\frac{m}{mK}$)	at 25 °C	1,8 · 10 ⁻⁵
	at 150 °C	
Density (kg/m ³)		1500
Volume resistivity (Ω cm)		2,0 · 10 ¹⁵
Surface resistivity (Ω)		6,0 · 10 ¹⁶

Dimensions



Dimensions in mm

x = radial clearance

bore D	d ₁	d ₂	d ₃	b ₁	e ₁
100	130	132	4	2,1	6
110	140	142			
125	155	157			
140	170	172			
160	190	192	5	4,1	9
180	210	212			
200	240	242			
225	265	267			
250	290	292			
280	320	322			
315	355	357			
335	375	377			
355	405	407	6	6,1	12
375	425	427			
400	450	452			
425	475	477			
450	500	502			
475	535	537			
500	560	562			
530	590	592			
560	620	622			
600	660	662			
630	690	692	6	6,1	14
670	730	732			
710	780	782			
750	820	822			
800	870	872			
850	920	922			
950	1020	1022			
1000	1070	1072			



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