

Simmerring Radiamatic® RHS 51

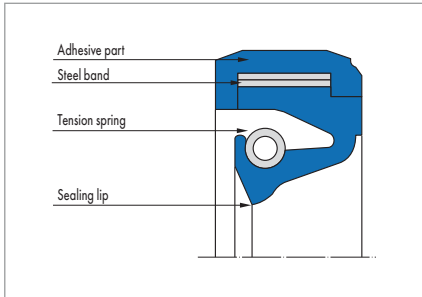


Fig. 1 Simmerring Radiamatic® RHS 51

Product description

High-speed Simmerring made from two functionally suitable elastomer components and an integrated steel strip. Two interleaved tension springs ensure an even radial force over the entire circumference length of the sealing edge even with high shaft centre offset.

Product advantages

Self-holding Simmerring for shaft pass through walls in mills and large gearboxes in heavy machinery manufacture. The sealing ring has radial grooves to facilitate additional lubrication from outside. Only endless self-holding Simmerrings are available

- Long-lasting tight fit
- Lasting radial contact pressure
- Highly wear-resistant
- High permissible shaft offset
- High permissible circumferential speed.

Application

Rolling mills, large gearboxes.

Material

Sealing lip	Static part	Steel strip	Tension spring
80 NBR B241	85 NBR B247	ST 1.4310	ST 1.4571
75 HNBR U467	85 HNBR 10040	ST 1.4310	ST 1.4571
80 FKM K670	90 FKM K683	ST 1.4310	ST 1.4571

Operating conditions

Material	80 NBR B241	75 HNBR U467	80 FKM K670
	Temperature range in °C		
Mineral oils	-30 ... +100	-20 ... +120	-10 ... +150
Water	+5 ... +100	+5 ... +100	+5 ... +80
Lubricating greases	-30 ... +100	-20 ... +120	-10 ... +150
Rolling oil emulsion	on enquiry		
Pressure p in MPa	0,02		
Running speed v in m/s	25	30	35

Other media on enquiry. Application parameters are recommended values, do not utilise all parameters simultaneously.

Surface quality

Peak-to-valley heights	R _a	R _{max}
Running surface	0,15 ... 0,3 µm	≤2,5 µm
Housing	≤4,0 µm	≤15,0 µm

The contact area is machined by plunge grinding, i.e. without feed. The surface hardness must be approx. 60 HRC (depth of hardening min. 0,5 mm). With increasing circumferential speed the contact area should be manufactured with increasing peak-to-valley heights R_a. The surface should not be too smooth so that an adequate film of lubricant can form. Recommended value: R_{a min} = 0,1 µm. Percentage contact area M_r >50% to max. 90% at cutting depth c = Rz/2 and reference line C ref = 0%. Abrasive surfaces, ridges, scratches and blow-holes are to be avoided.

Design notes

The permissible shaft offset (static eccentricity, centre offset) is dependent on the shaft diameter.

Shaft Ø d	Permissible shaft offset
200 ... 320	2,0 mm
>320 ... 450	2,5 mm
>450	3,0 mm

The permissible shaft offset (dynamic eccentricity) is dependent on the seal profile and the circumferential speed. Please request recommended values.

Lead-in chamfer

See dimension "C" in the housing recommendations for new designs.

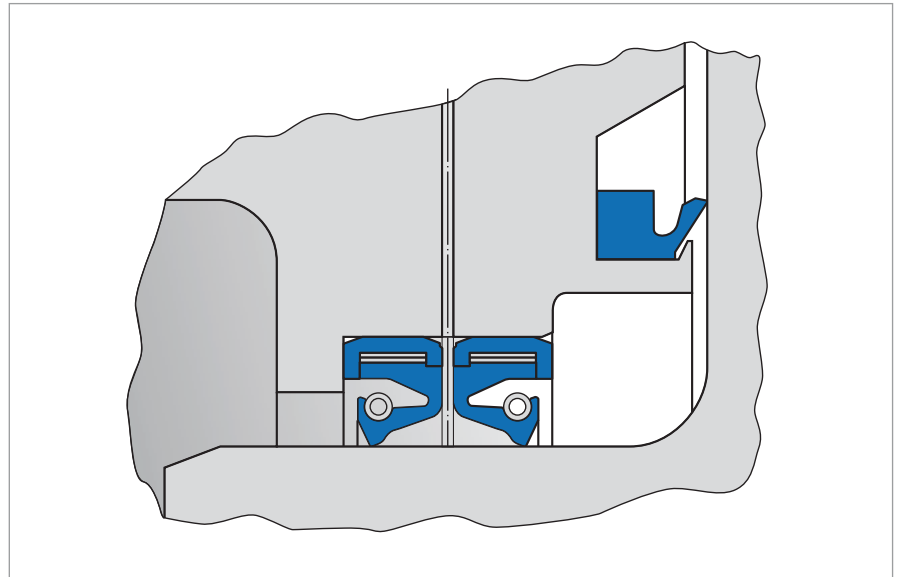


Fig. 2 Typical seal arrangement

Fitting & installation

An axially accessible housing is necessary for the fitting of the Simmerring Radiamatic RHS 51. Only endless self-holding Simmerrings Radiamatic RHS 51 are available.

Housing recommendations for new designs

