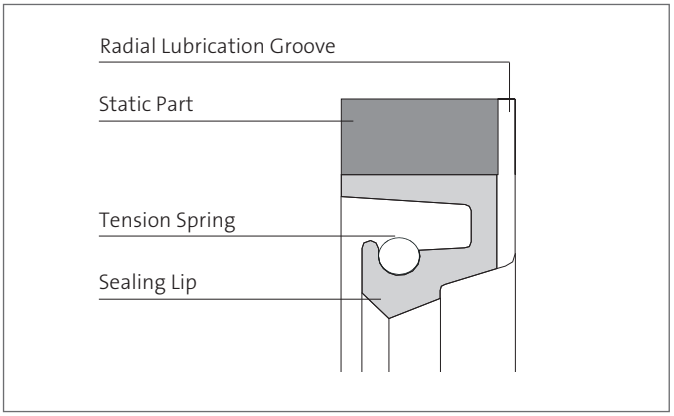
MERKEL RADIAMATIC R36

Merkel Radiamatic R36 is a radial shaft seal consisting of a fabric reinforced section of sturdy design, firmly bonded to the rubber sealing lip. A helical tension spring assists radial contact pressure of the lip on the shaft. Radial lubrication grooves ease a back-to-back arrangement.



VALUE TO THE CUSTOMER

- Highly wear resistant
- Constant radial force assuring steady performance
- Also available as joint-on-site version
- Supportive elements for the sealing lip allow higher pressures. Elevated pressures require endless seals. Drawings of the support rings and further installation instructions are available on request.

Applications
Shaft seals Merkel Radiamatic R36 are mainly used in heavy duty applications like rolling mills or large size gear boxes.

Material

Sealing lip	Adhesive part	Tension spring
80 NBR 245565	Impregnated cotton fabric	ST 1.4571
80 NBR B241	Impregnated cotton fabric	ST 1.4571
75 HNBR U467	Impregnated aramide fabric	ST 1.4571
80 FKM K670	Impregnated aramide fabric	ST 1.4571

Further material combinations on request.

TECHNICAL PROPERTIES

Operating Conditions

Material	80 NBR 245565	80 NBR B241	75 HNBR U467	80 FKM K670
Mineral oils	–20 ... +80 °C	–30 ... +100 °C	–20 ... +120 °C	–10 ... +150 °C
Water	+5 ... +80 °C	+5 ... +100 °C	+5 ... +100 °C	+5 ... +80 °C
Lubricating greases	–20 ... +80 °C	–30 ... +100 °C	–20 ... +120 °C	–10 ... +150 °C
Rolling oil emulsion	on enquiry	on enquiry	on enquiry	on enquiry
Pressure	0,05 MPa	0,05 MPa	0,05 MPa	0,05 MPa
Sliding speed	12 m/s	20 m/s	25 m/s	25 m/s

Other media on demand. The figures given are maximum values and must not be applied simultaneously.

Surface Finish

Peak-to-valley heights	R_a	R_{max}
Sliding surface	≤0,6 µm	≤2,5 µm
Housing	≤4 µm	≤15 µm

The counter surface is suitably machined by plunge grinding, i.e. without feed. The recommended surface hardness is approx. 60 HRC (hardening depth min. 0,5 mm). As the circumferential speed increases, the counter surface should be finished with a decreasing roughness depth R_a. The surface must not get too smooth in order to ensure sufficient lubricant film formation.
Standard value: R_a min. = 0,1 µm. Profile bearing length ratio t_p > 50 % up to max. 90 % at average depth c = R_z/2 and reference line C_{ref} = 0 %. Abrasive surfaces, ridges, scratches and blow-holes are to be avoided.

Tolerances

Ø D [mm]	Tolerances
<500	H8
>500	+0,0004 x D

Overall Eccentricity

The permissible overall eccentricity (static and dynamic eccentricity) between shaft and housing is dependent on the seal Profile and circumferential speed. Recommended values on request.

Housing recommendations for new designs

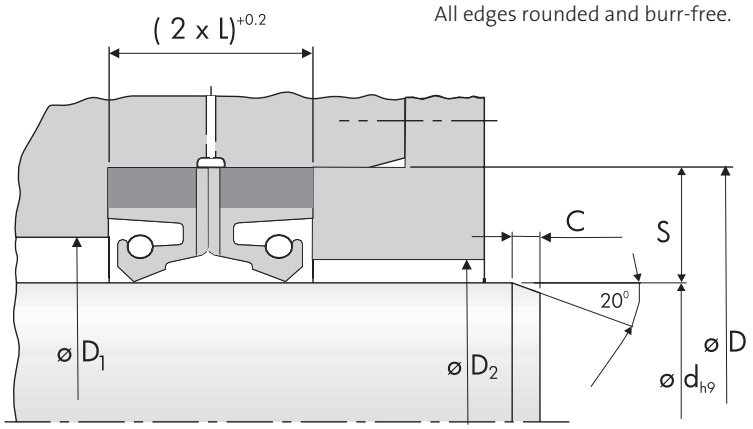
Ø d [mm]	S (Profile) [mm]	L [mm]
>100	20	16
>250	22	20
>450	25	22
>750	32	25

Installation & Assembly

The shaft seal Merkel Radiamatic R36 is axially pretensioned to the metallic housing dimension L in an axially accessible installation space via a cover plate with tightening screws. The ring is therefore supplied with an oversize in the seal height. Certain deformation forces are required for pressing. The cover plate and the tightening screws must be designed accordingly. Guide values are available on request.

INSTALLATION

Installation Diagram



Please note the general design-related remarks in our technical manual.

Installation Chamfers
See dimension “C” in table of dimensions.