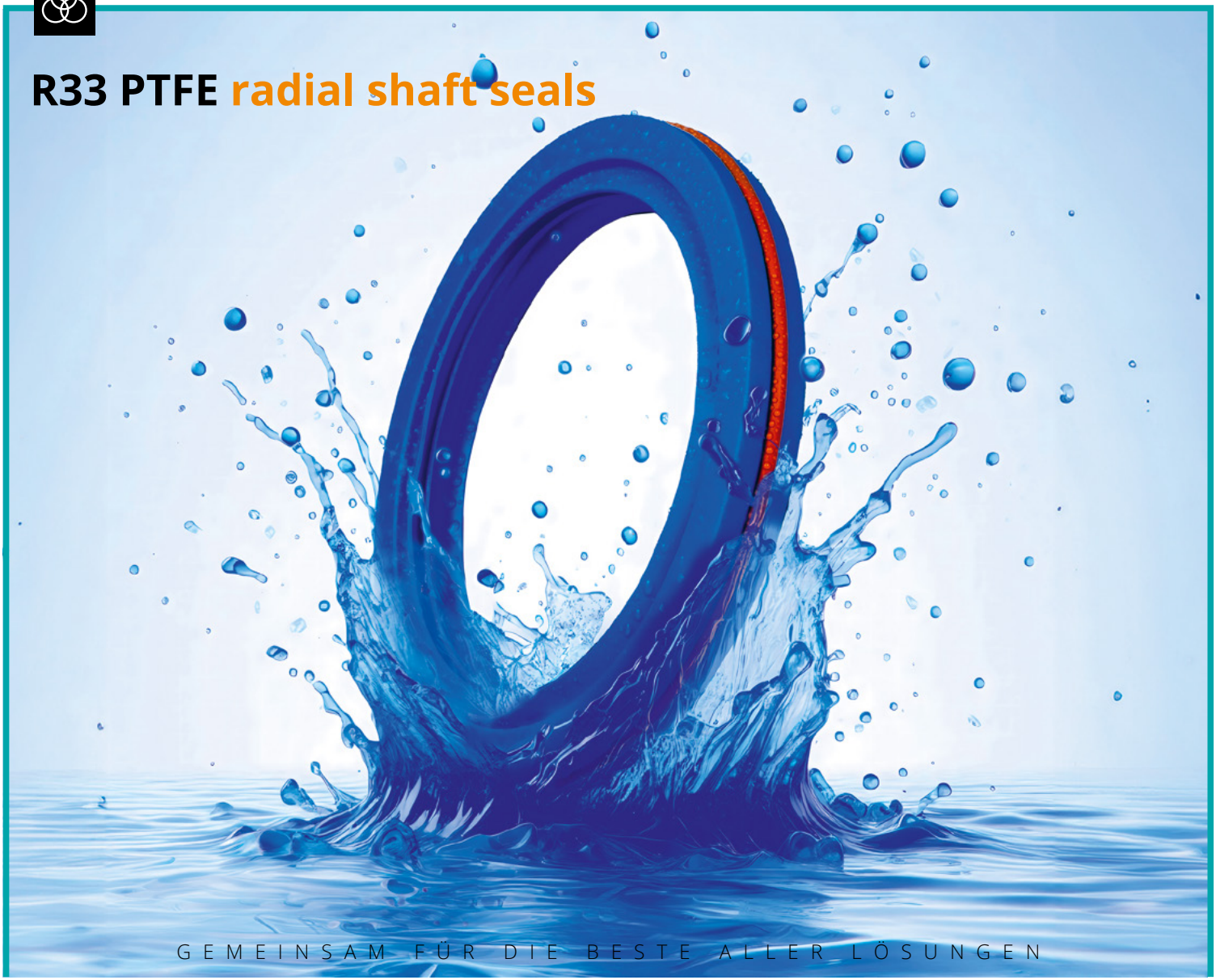
SealConcept®

DICHTUNGEN & HYDRAULIK

R33 PTFE radial shaft seals



GEMEINSAM FÜR DIE BESTE ALLER LÖSUNGEN



R33 PTFE Radial Shaft Seals

With our PTFE Radial Shaft Seals R33, you obtain a sealing solution for extreme operating conditions and applications

Our R33 profiles can meet the high hygiene requirements of the pharmaceutical and food industry through dead-space-free design methods. They are manufactured from non-adhesive materials.

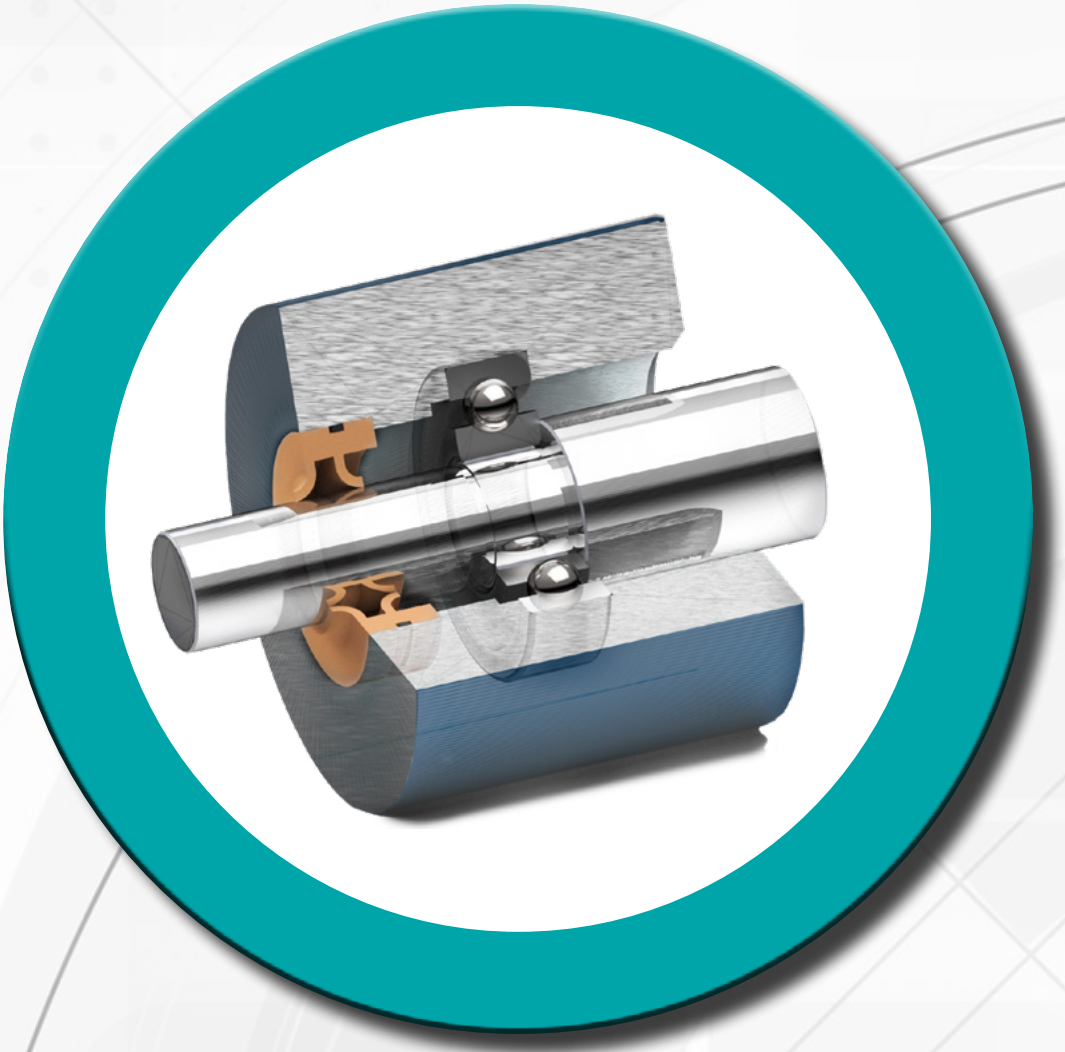
We produce individual seals and small series that are interchangeable for installation spaces according to DIN 3760 or according to your freely chosen installation spaces.

The product highlights at a glance:

- High chemical and thermal resistance from -60°C to +200°C
- Applicable in cases of insufficient lubrication and dry running
- Peripheral speeds of up to 30 m/s possible
- Seals up to a maximum pressure of 30 bar are possible, depending on the design
- Low friction, high wear resistance, and low breakaway torque after extended periods of inactivity
- Also suitable for use on non-hardened shafts (depending on the material)

We are primarily interested in finding a solution to your problem!

In demanding operational environments where high standards for cleanability, sterilization, and hygienic design are crucial, we, as a certified manufacturer, are your competent partner. We guarantee a swift analysis and implementation of your sealing solution by our experienced specialists, along with the use of materials compliant with food standards.





Installation Instruction

The delicate sealing lips must be protected from damage. For installation, we recommend assembly tools with an insertion cone of 10˚ to 15˚. The installation space must be axially accessible.

Shaft design:
The service life and tightness depend greatly on the surface condition of the shaft. We recommend using surfaces that are as smooth as possible, free from voids and pores, with a high load-bearing capacity. This can be achieved, for example, through fine grinding, honing, and polishing.

Surface roughness of the running surfaces:
Ra = 0.3 - 0.5 µm for lubricated applications.
Ra = 0.2 - 0.4 µm for dry running and abrasive media.

Surface hardness:
40 to 65 HRC for lubricated applications and pressures ≤ 15 bar.
58 to 65 HRC for dry running, abrasive media, and pressures ≥ 15 bar.
Preferably, hardened steel should be used as the shaft material.

Surface roughness of the housing bore:
Ra = max 0.8 µm.
For larger roughness up to Ra = 1.6 µm, additional sealing on the outer diameter is recommended (O-ring standard with our R33 profiles).

The static O-ring seal on the outer diameter also prevents the seal from rotating and facilitates installation/removal.

Each seal is individually tailored to the existing installation spaces and operating conditions. Filling the gaps with grease, for example, between the sealing lips or in other cavities of various sealing profiles, can increase the service life. In cases of higher pressures or axial movements of the shaft, it is advisable to protect the seal from extrusion with a retaining ring.

APPLICATIONS:

- Centrifuges
- Fans, Ventilators
- Vacuum pumps
- Hydraulic pumps
- Solid handling pumps
- Bearing protection
- Gearbox seals
- Wood/paper processing machines
- Machine tools
- Stone processing machines
- Agitators
- Mills
- Meat processing machines
- Bakery machines
- Beverage filling systems

Do you have any further questions?

Our technical advisors are available at any time for further information. We are happy to arrange a personal consultation at your location. You are also welcome to visit us at our facility in Bobingen at any time to personally witness our working methods and quality.

Expertise and high technical competence are the prerequisites for high-quality precision products.

AGQS
certified management system
DIN EN ISO 9001

AGQS
certified management system
DIN EN ISO 14001



Here is a selection of our R33 materials:

Description	Material Designation	Color		Datasheet Number	Hardness at 23°C	°C Operating Temperature	GMP EU 2023/2006	FDA-Conformity	VO (EU) 1935/2004	VO (EU) 10/2011	BSE/TSE-free	3A Sanitary	USP Class VI
PTFE+PEEK	PM575	beige		575	32 MPa	-200 °C to +260 °C	x	x	x	x	x	x	
PTFE+Ekonol	PM056	beige		56	29 MPa	-200 °C to +260 °C	x	x	x	x	x		
PTFE+Fiberglass	PG568	gray		568	60 +/- 3 ShD	-200 °C to +260 °C		x	x	x	x	x	x
PTFE+Carbon fiber	PKF15-282	gray		282	37 MPa	-150 °C to +250 °C							
PTFE+Carbon	PK126	black		126	62 bis 67 ShD	-200 °C to +260 °C							
PTFE natur	P128	white		128	60-65 ShD	-250 °C to +300 °C	x	x	x	x	x		
PTFE turquoise	PT322	turquoise		322	28 MPa	-200 °C to +260 °C	x	x	x	x	x		
PTFE blue	PM148	blue		148	56 ShD	-200 °C to +260 °C	x	x	x	x	x		
PTFE+E-Carbon	PK670	black		670	63 ShD	-200 °C to +260 °C	x	x	x	x			



R33 Profile selection

R33 Standard type, suitable for narrow installation spaces.

R33A Dead-space-free, for food and pharmaceutical industries.

R33B Similar to R33, with an additional sealing lip for increased security.

R33C Similar to R33A, with an additional sealing lip for increased security.

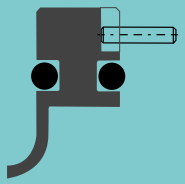
R33D Counter-rotating sealing lips for media separation.

R33E Similar to R33D, with an additional sealing lip for increased security.

R33F For extreme operating conditions (e.g., solid handling pumps and mixers).

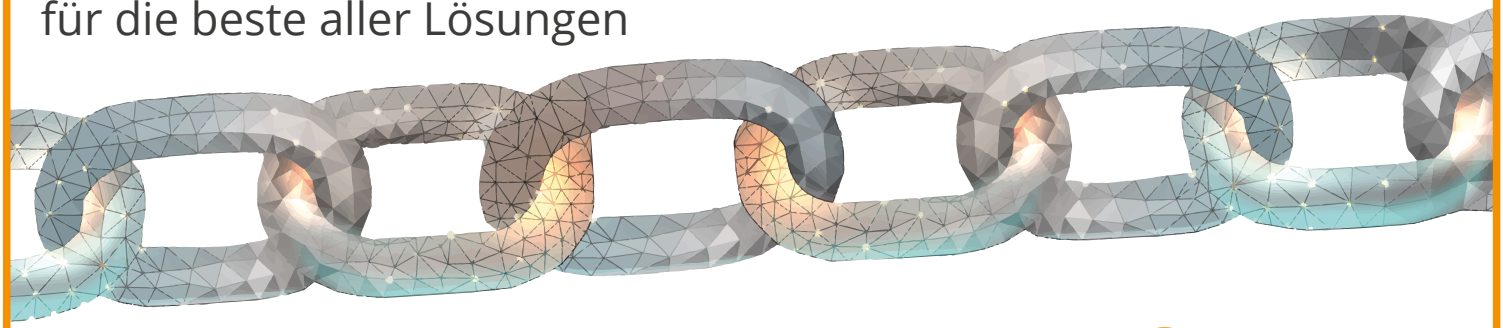
R33G High-pressure variant, dead-space-free (e.g., bearing protection during high-pressure cleaning).

R33H High-pressure variant for narrow installation spaces.



SPECIAL TYPES INDIVIDUAL
e.g., for radial shaft deflection, for customer-specific installation spaces, with flushing bores between the sealing lips, etc.

Gemeinsam
für die beste aller Lösungen



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