



Simrit Product Summary

Your Technology Specialist

simrit[®]

The information in this product catalogue is based on the experience gained in decades of research on the development and manufacture of seals and components for vibration control in the Freudenberg group. It represents the current status of our knowledge.

The sealing effect of many products in the catalogue is, however, not provided solely by the component. Indeed, in the specific application this effect depends on other parameters such as installation position and contact area, the pressure applied, operating temperature, media to be sealed, lubrication, vibration control-related effects and any ingress of dirt from the outside. This and other, unknown, factors in practical use can have a significant effect on the seals.

Against this background, general statements on the function of the products in the catalogue are not possible. Information in this catalogue only represents recommended values that are not correct in every application. We therefore recommend you to discuss your specific application with our advisory service. In cases with high or special loads, for example due to aggressive media, the seal should be selected in collaboration with us; here trials on reliability are often indispensable.

In the context of product optimisation we reserve the right to change, without prior notice, the product range, production sites, products and their manufacturing process as well as the information in this catalogue.

All previous issues become invalid on publication of this issue of the catalogue.

Duplication in any form requires express approval from Freudenberg Simrit GmbH & Co. KG, 69465 Weinheim, Germany.

© Freudenberg Simrit
GmbH & Co. KG
All rights reserved.

Simrit, Your Technology Specialist for Seals and Vibration Control

Our unique service package sets standards in quality, functionality and cost effectiveness throughout the industry.

With its comprehensive product range and large number of services, Simrit provides a service package unique in the market for almost every application. Simrit employs its leading technological expertise so that you benefit: We analyse your entire system and fine-tune the individual components to each other in an optimum way. This means you get exactly the solution that best fulfils your requirements – cost effective and dependable. Reinforced by single sourcing that saves time and costs, you will find that Simrit is your ideal partner for all sealing- and vibration-related applications when it comes to complex systems.

We have been the leading experts in materials for decades, and this is a significant factor for success, exceptional performance and continuous technological advancement of our products. Famous product names such as Simmerring®, Merkel, Integral Accumulator, O-Ring and Lederer reflect this.

Together with the fields of special sealing products and vibration technology, they are inseparably connected with the Simrit brand name and constitute the world's largest product range for all applications throughout industry.

As part of the Freudenberg Group, we draw upon established research, development and production expertise within the Group to constantly extend our technological lead through innovative solutions for the purposes of – and in the service of – our global customers with their local market requirements. The close international cooperation of Simrit in Europe and America with our Japanese partner, NOK, in Asia provides you with consistent quality standards wherever our solutions are required. With Simrit Service Centres in all industrial markets, our global sales network supports you and more than 100,000 other customers dependably and on a basis of mutual trust and cooperation at sites in every continent.

The Simrit service package at a glance:

■ **World's largest product range**

Comprehensive solutions from a single source

■ **Continuous innovations**

Technological prominence for the competitive advantage of our customers

■ **Unique expertise in materials and high quality standards**

Leading know-how for safe and cost-effective applications

■ **A huge number of integrated services**

Support from development up to continuous product deployment

■ **Globality**

Global expertise with the knowledge of local market requirements



Simmerring®



Fluid Power



Hydraulic Accumulator



O-Rings



Liquid Silicon Products



Special Sealing Products



Vibration Control

Table of Contents

Simrit service package

	2
--	---

Simmerring®

■ Standard product range	14
■ Special product range	20

Hydraulics

■ Standard product range Rod Seals	23
■ Standard product range Piston Seals	30
■ Standard product range Wipers	36
■ Standard product range Guides	41
■ Standard product range Static Seals	44
■ Standard product range Seals for Rotating and Swivelling Movement	45
■ Special product range	46

Pneumatics

■ Standard product range Rod Seals	49
■ Standard product range Piston Seals	50
■ Standard product range Damper Seals	54
■ Standard product range Wipers	54
■ Standard product range Guides	55
■ Special product range	55

Packings

■ Standard product range	56
■ Accessories	65

Hydraulic Accumulators

- Standard product range 66
- Special product range 66

O-Rings

- Standard product range 68
- Special product range 69

Liquid Silicone Products

- Special product range 70

Special Sealing Products

- Special product range Elastomer Composite Parts and Precision Mouldings 71
- Standard product range Bellows 76
- Special product range Bellows 77
- Standard product range Sheets and Rubberised Fabrics 79
- Standard product range Diaphragms 79
- Special product range Diaphragms 79

Vibration Control

- Standard product range 83

Simrit Service Centres and Simrit Partners Worldwide

- 90



Elastomers with excellent characteristics — the Basis of innovative solutions

Thorough know-how about materials for more than 60 years

Simrit has now been developing innovative branded products at the highest level for more than 60 years. With in-depth experience on materials, well-founded knowledge of processing and extensive product know-how, again and again we create ideal pre-conditions for your success. However, the quality of the elastomer material is decisive for the optimum operation of seals and components used in vibration control. Therefore, we are particularly proud of our pioneering role worldwide in this sector.

Deliberately targeted development of materials guarantees the highest possible quality and long life

More than 500 engineers and chemists worldwide are developing new materials every day for the highest possible functional requirements in joint development ventures with various research institutions plus leading manufacturers of polymers and chemicals. The materials we develop must fulfil the respective customer-specific requirements and withstand all the loadings feasible in their branch of industry – both with regard to temperature, pressure and resistance to media and in the presence of static or dynamic loadings.

The length of life of our products is constantly being improved by optimising our materials. Constant monitoring on the road to these products becoming mass production materials also guarantees you the highest possible quality.



The individual materials we have developed
are leaders worldwide

**Uniquely wide range of
standard materials**

We produce more than a billion seals annually from a production volume of more than 15,000 tons. When considered as a whole, a range of material, which is unique in its quality and quantity, is available to you with more than 1,700 mixtures of 850 raw materials for your individual applications in seals and vibration control. A large proportion of these are standardised mixtures. Of course, our competent team of experts will advise and assist you fully – from the selection of the right materials via the test phase to the start of production.

**Comprehensive performance
package and much more**

Materials manufactured individually to your wishes and requirements are unusually important in the comprehensive performance package from Simrit. The use of polymers, based on our own raw materials and tailored to your requirements, enables Simrit to develop high performance materials which satisfy the highest functional demands. We use our global materials database for the selection of application-specific materials, which groups together the know-how of our experts, working worldwide, to form a network of top technological services which we can call on at any time. Finally, the appropriate material with the optimum cha-

racteristics for your application is manufactured using computer-controlled procedures, from the selection of the raw material to the compounding process. Of course, always adhering to the highest standards in quality and processing and complying with ecological guidelines – in the interests of your success and the environment.

Simrit Academy – secure these advantages for your success



The Simrit Academy offers you seminars which are tailored to your needs in terms of content and specialisation levels. There are numerous advantages for you.

A know-how advantage

You receive information from more than 20 qualified experts with regards to state of the art products and materials. Thus ensuring the correct selection of parts as well as smooth workflows in your production processes.

Individuality

Our seminar programme covers the needs of beginners and pros alike. The selection is extensive, allowing for a choice appropriate to the level of knowledge.

Practical relevance

Reinforcement of theoretical knowledge through practical exercises. At the same time we invite you to view our production and research facilities.

Productivity

With the knowledge that you have gained, you can increase your productivity by appropriately selecting the correct products and materials every time.

Languages

All attendance seminars are offered in both German and English. Simultaneous translation is available at every Innovations Forum.

Sustainability

For each Simrit Academy event, you will also receive comprehensive documentation to accompany the course information. Your participation is substantiated by DIN-ISO 9001 format seminar certificate.

Simrit Seminars – for beginners and experts



You can visit our Academy on location in Weinheim and directly experience all materials and products yourself. In doing so, you can choose one of three different seminar categories.

Simrit Basic Seminar

Participants without previous technical knowledge can get to know the entire Simrit performance package.

Simrit Professional Seminar

Become an expert on Simrit and obtain detailed knowledge about all products, processes and materials. Both in theory and in practice.

Simrit Specialised Seminar

The course contents are highly specialised and concentrate on conveying knowledge related to a specific product or material area.


Innovation Forum

Interested parties learn about all the new Simrit innovations in this lecture series, and can exchange knowledge and experience with panels of experts and with other participants.

Registration

You can easily register for Simrit seminars at www.simrit.com/academy. Additional detailed information on registering and on the seminars can be found in the Simrit Academy Programme brochure, which you can order or download from www.simrit.com.





Merkel Xpress – The 24 hour express service for seals, guides and pivoting parts

When it has to be there in a hurry: Merkel Xpress from Simrit. Our service delivers the desired seal within 24 hours.

With Merkel Xpress from Simrit you can minimise your machine down-time – and therefore production costs. At the same time, you can reduce the number of spare parts you keep in stock. After all, if you can order it at any time, you don't need to keep it in stock. Ask us: you'll have your seal tomorrow.

The seal you need

Whatever you need at short notice, we can produce it within a few hours using state-of-the-art production technology. Tailor-made to suit your requirements, from single seals for prototypes through to mass production in economical batch sizes. Merkel Xpress saves you shaping costs and minimum order quantities – by using new materials and thanks to our high-speed production and delivery systems.

Merkel Xpress offers you:

- Delivery within 24 hours
- Seals of up to 4 metres in diameter
- From single seals to mass production
- Wide range of profiles
- Original Simrit materials and geometries
- Plus special designs and special materials
- Leading production know-how
- Continuous development of the product range

Tailor-made. Immediately. Economically.

The triple advantage of Merkel Xpress

Materials

Polyurethane:

SQ-PU

SQ-HPU

Further materials:

- For low-temperature ranges (down to -50°C)
- Self-lubricating properties
- With FDA approval

Elastomers:

SQ-NBR

SQ-HNBR

SQ-FKM (fluorelastomer)

SQ-EPDM*

SQ-SIL*

*Also with FDA approval (food safe)

Plastomers:

SQ-POM

SQ-PA

Fluoroplastic (PTFE):

SQ-WFLON (white, virginal)

SQ-GFLON (with 15% glass fibre, 5% MoS₂)

SQ-BFLON (with 40% or 60% bronze)

SQ-CFLON (25% carbon)

Further qualities on request.



A flexible production concept for every requirement

With the newest generation of special lathes and software solutions developed to precisely satisfy customer demands, we can produce every machine-manufactured seal possible, quickly and economically. More than 260 pre-programmed seal design types serve as a basis for our efficient and rapid manufacturing processes. In this regard we work with both special materials such as PEEK and FFKM, Original Simrit polyurethane and, of course, upon request every other market-standard material

for your specific application. The perfect solution for:

- Non-standard seal and machined-part spare parts for every manufacturer
- Rapidly required standard seals
- Small-volume series of special seals
- Samples
- Substitute seals
- End-of-life design types whose series production will not be restarted

Further information can be found at www.simrit.com.

Realise your objectives quickly
with www.simrit.com



Simrit Online – more than just a facelift. Thanks to a smart Navigation System – developed exactly to your requirements – the information you are looking for can be found about products and services with just a few mouse clicks.

The new online presence from Simrit, offers you a particularly quick and easy work platform for your Internet research. There's no quicker way for you to achieve your objective of getting solid expertise for your planning. Whether you need product information, material data sheets or want to access 3D-CAD data – in the user-friendly Simrit database you are sure to quickly find what you are looking for.

3D-CAD data – Download added value

With the 3D Download Service from Simrit you can reliably create your designs with visual clarity for your seal or vibration control solution. Including all technical details in three-dimensional display quality.

The new Simrit eCatalog

Up to 100.000 items accessible online and available within 24 hours. The new eCatalog in the Simrit portal makes it possible. And the best thing about it: The Simrit Product Navigator guides you in the easiest and most straightforward manner directly to the optimum product for your application.

Find – compare – select.
Convince yourself.

mySimrit – the easy, exclusive offering for smart online users

Register once – benefit continuously. As a registered user of the mySimrit customer area, you benefit from the continuously expanding service advantages. From initial query through product availability to quick CAD downloads and even accessing current news, you receive true added value for a minimum of registration effort. The best thing to do is test us today.



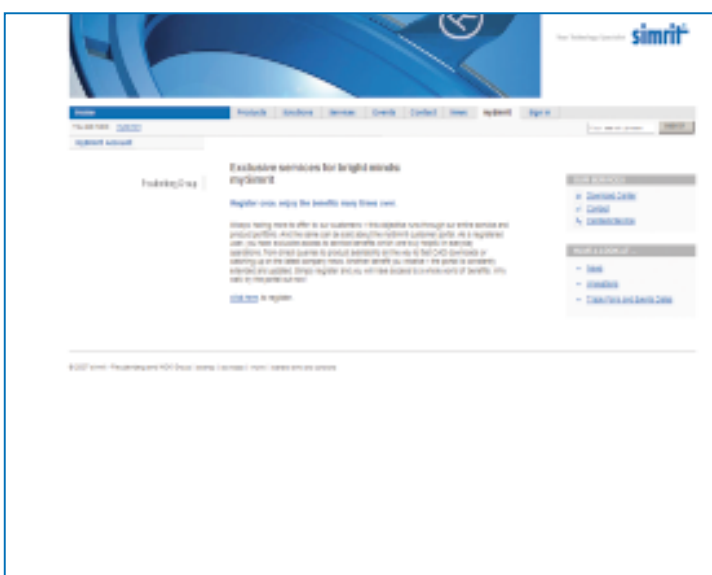
We speak your language:

As a worldwide leading technology specialist, of course we also make our Internet services available to you in your native language. Right from the start, our new on-line presence is represented in the national language of the most important industrial markets. And, we are continually expanding our portal for you.



Simrit on the Internet – your platform for successful business

- Smart navigation and full-text searches for rapid results
- An extensive eCatalog with more than 100.000 items
- Easy download function for 3D-CAD
- An overview of our brochure service by mouse click
- Availability check
- and much more



Influencing Factors

Circumferential speed of the shaft

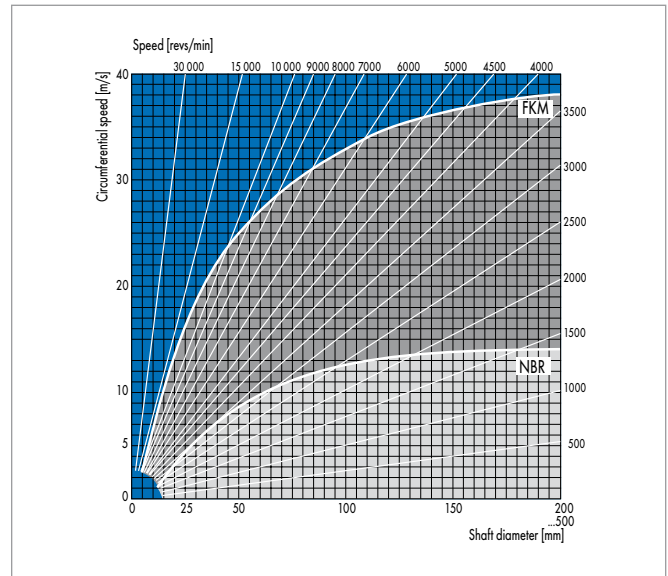
The circumferential speed, given by the number of r.p.m. and shaft diameter, is the determining influence for the determination of type and material of the Simmerrings.

Determining circumferential speed "V" of the shaft using the formula:

$$V \text{ (m/s)} = \frac{\text{shaft-}\varnothing \text{ D(mm)} \times \text{r.p.m./rot. sp. (1 min)} \times \pi}{60\,000}$$

The values given are recommended values. Satisfactory lubrication and good heat dissipation are a prerequisite. Correspondingly lower figures apply in less favourable conditions. Three ranges indicate the permissible circumferential speed:

- Use of the material NBR
- Use of the material FKM
- Outside of both ranges, no use of Simmerrings.



Permissible circumferential speed for Simmerrings (recommended values) made of the materials NBR (72 NBR 902) and FKM (75 FKM 585) when sealing engine oil SAE 20

Standard product range

Simmerring BAUX2, BAUSLX2

Standard types according to DIN 3760, with outer elastomer sleeve, with and without additional dust lip (SL) to protect against light to medium levels of dirt ingress. Available in various designs.



T -40 ... +100 °C

v 8/14 m/s

p 0,05 MPa

Available materials 72 NBR 902

Application Axles (when subject to moderate dirt), Industrial gearboxes, Power tools

Simmerring BAUM, BAUMSL

Standard types according to DIN 3760 with outer elastomer sleeve and spring-loaded fluorine rubber sealing lip for high thermal and chemical requirements. Available with or without additional dust lip to protect against light to medium levels of dirt ingress.



T -25 ... +160 °C

v 10/40 m/s

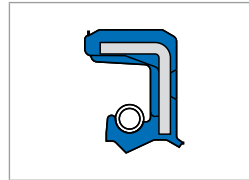
p 0,05 MPa

Available materials 75 FKM 585

Application Agricultural and construction machinery transmissions, Axles (when subject to moderate dirt), Industrial gearboxes, Power tools

Simmerring BABSL

Pressure-resistant type for use without back-up ring in pressurised units such as hydraulic pumps and motors as well as hydrodynamic couplings. With additional dust lip to protect against dirt ingress.



T -40 ... +100, -25 ... +160 °C

v 7/10 m/s

p 1,0 MPa

Available materials

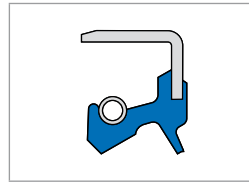
72 NBR 902, 75 FKM 595

Application

2-stroke engines, Hydrostatic drives (pumps, engines of all kinds)

Simmerring B1, B1SL

Standard types with open outer metal sleeve. With or without dust lip (SL) to protect against dirt ingress.



T -40 ... +100 °C

v 8/14 m/s

p 0,05 MPa

Available materials

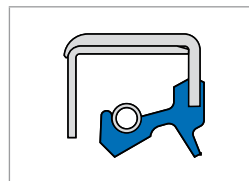
72 NBR 902

Application

Axles (when subject to moderate dirt), Industrial gearboxes, Power tools

Simmerring B2, B2SL

Standard types with reinforced outer metal sleeve for easy fitting. With or without dust lip (SL) to protect against dirt ingress.



T -40 ... +100 °C

v 8/14 m/s

p 0,05 MPa

Available materials

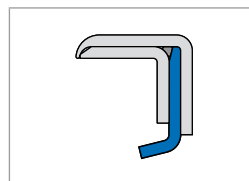
72 NBR 902

Application

Heavy industry (cranes, calendar roll gearboxes)

Simmerring B2PT

Design for extreme thermal and chemical loads, dry running, insufficient lubrication and meeting demands for stick-slip-free behaviour. Metal housing made from stainless steel, sealing lip made from PTFE 10/F56101.



T -80 ... +200 °C

v ≤30 m/s

p ≤1,0 MPa

Available materials

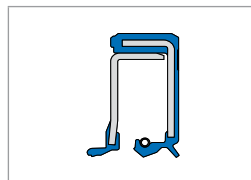
PTFE 10/F56101

Application

Centrifuges, Mixers, Pumps, Rotary joints

Simmerring MSS 1 (Modular Sealing Solution)

The standard Simmerring BA...U...SL as basic module combined with an inner buffer seal with sine wave-shaped sealing lip as one-piece solution, e.g., for drive technology applications. A proven type with high resistance to soiling and metal abrasion in the oil chamber.



T -25 ... +100, -25 ... +160 °C

v ≤6,0 m/s

p ≤0,05 MPa

Available materials 72 NBR 902, 75 FKM 585

Application Industrial gearboxes

Simmerring Cassette Seal Type 1

Complete unit consisting of a Simmerring and an integrated running surface. Economical system solution with integrated labyrinth to protect against extreme soiling. The integrated running surface meets the high demands placed on dynamic seals.



T ≤ +80, ≤ +100 °C

v ≤7,0, ≤9,0 m/s

p ≤0,05 MPa

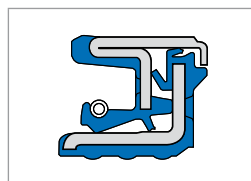
Available materials 75 NBR 106200, 75 FKM 595,

Application

Forage chopper, Pinions on axles of construction machinery (road rollers, excavators, fork-lift trucks, mixers) and agricultural machinery (tractors), Power take-off drives of construction machinery (road rollers, excavators, fork-lift trucks, mixers), Propeller shafts, hubs and pinions on axles of commercial vehicles (lorries, buses, trailers, special vehicles)

Simmerring Cassette Seal Type 2

Complete unit consisting of a Simmerring and an integrated running surface. Economical system solution with integrated labyrinth to protect against extreme soiling. The integrated running surface meets the high demands placed on dynamic seals.



T ≤ +80, ≤ +100 °C

v ≤5,0, ≤7,0 m/s

p ≤0,05 MPa

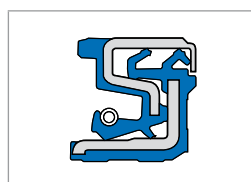
Available materials 75 NBR 106200, 75 FKM 595

Application

Agricultural machinery, Combine harvesters, Pricking out machinery, Sewing machinery, Tedders, Threshing machinery

Simmerring Cassette Seal Type 3

Complete unit consisting of a Simmerring and an integrated running surface. Economical system solution with integrated labyrinth to protect against extreme soiling. The integrated running surface meets the high demands placed on dynamic seals.



T ≤ +80, ≤ +100 °C

v ≤4,0, ≤6,0 m/s

p ≤0,05 MPa

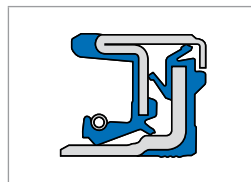
Available materials 75 NBR 106200, 75 FKM 595

Application

Agricultural machinery, Fertiliser spreading machinery, Harrows, Motorised cultivators, Propeller shafts, Hubs and pinions on axles of commercial vehicles (lorries, buses, trailers, special vehicles), Propeller shafts, Hubs for tractors, Tillers

Simmerring Cassette Seal HS (High Speed)

The design of the Simmerring Cassette Seal HS, characterised by a contact surface composed of metal (50%) and rubber (50%), allows for higher heat dissipation through the metal/metal contact surface on the shaft under the sealing edge in comparison with standard cassette seals. This design feature prevents coking of oil under the sealing edge and increases the permissible operating speed by 25 per cent.



T ≤ +100, ≤ +120, ≤ +80 °C

v ≤ 12 m/s

p ≤ 0,03 MPa

Available materials

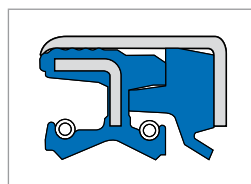
68 ACM, 75 FKM 585,
75 NBR 106200

Application

Agricultural machinery (tractors, Commercial vehicles (small trucks small special vehicles), Differential, Drive engineering, Pinions

Simmerring Combi Seal SF6

The Simmerring Combi Seal consists of at least two mounted elements which are preferably used in agricultural and construction machinery. In addition the PU element in this system can provide effective sealing for small axial motions.



T ≤ +80, ≤ +100 °C

v ≤ 4,0, ≤ 6,0 m/s

p ≤ 0,05 MPa

Available materials

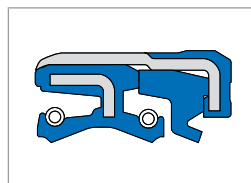
75 NBR 106200, 75 FKM 595

Application

Agricultural machinery, Drives (agricultural vehicles, General industry

Simmerring Combi Seal SF8

The Simmerring Combi Seal consists of at least two mounted elements which are preferably used in agricultural and construction machinery. In addition the PU element in this system can provide effective sealing for small axial motions.



T ≤ +80, ≤ +100 °C

v ≤ 4,0, ≤ 6,0 m/s

p ≤ 0,05 MPa

Available materials

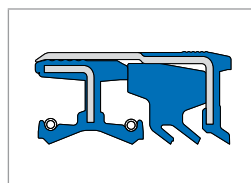
75 NBR 106200, 75 FKM 595

Application

Agricultural machinery, Drives (agricultural vehicles, General industry

Simmerring Combi Seal SF19

The Simmerring Combi Seal consists of at least two mounted elements which are preferably used in agricultural and construction machinery. In addition the PU element in this system can provide effective sealing for small axial motions.



T ≤ +80, ≤ +100 °C

v ≤ 4,0, ≤ 6,0 m/s

p ≤ 0,05 MPa

Available materials

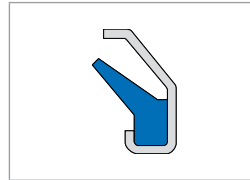
75 NBR 106200, 75 FKM 595

Application

Agricultural machinery, Drives (agricultural vehicles, general industry, For extreme dirt ingress and critical applications

Simmerring MSC (Modular Sealing Component)

Axial pre-load component for medium to high levels of dirt ingress instead of soiling in NBR with metal substrate element made from sheet steel with corrosion protection or stainless steel. Can be used as grease or dust seal.



T -40 ... +100, -25 ... +160 °C

v ≤6,0 m/s

Available materials

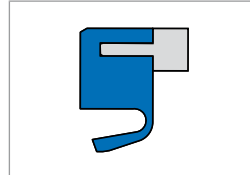
80 NBR 177458, 80 FKM 177459

Application

Industrial gearboxes, Power tools, Pumps

Simmerring Radiamatic® HTS II

Simmerring for open housings. Significantly reduced lip pre-load compared to conventional geometries with high level of protection against leaks.



T -20 ... +200 °C

v ≤25 m/s

p 0,6 MPa

Available materials

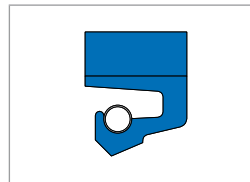
PTFE

Application

Agitators, Compressors, Fans, Gearboxes, Machine tools, Mixers

Simmerring Radiamatic® R 35

Simmerring with a fabric reinforced static part that is securely joined to the elastomer sealing lip. The sealing lip is also pre-loaded with a garter spring.



T -30 ... +180 °C

v 20 ... 25 m/s

p 0,05 MPa

Available materials

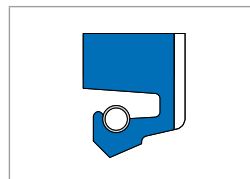
75 HNBR U467, 80 FKM K670, 80 NBR B241

Application

Rolling mills, Ship building, Steel hydraulics engineering, Wind power plants

Simmerring Radiamatic® R 36

Simmerring with a fabric reinforced static part that is securely joined to the elastomer sealing lip. The sealing lip is also pre-loaded with a garter spring.



T -30 ... +180 °C

v 20 ... 25 m/s

p 0,05 MPa

Available materials

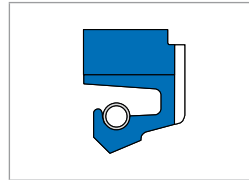
75 HNBR U467, 80 FKM K670, 80 NBR B241

Application

Rolling mills, Ship building, Steel hydraulics engineering, Wind power plants

Simmerring Radiamatic® R 37

Simmerring with a fabric reinforced static part that is securely joined to the elastomer sealing lip. The sealing lip is also pre-loaded with a garter spring.



T -30 ... +180 °C

v 20 ... 25 m/s

p 0,05 MPa

Available materials

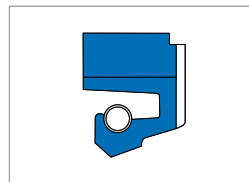
75 HNBR U467, 80 FKM K670,
80 NBR B241

Application

Rolling mills, Ship building, Steel hydraulics engineering, Wind power plants

Simmerring Radiamatic® R 58

Simmerring with a fabric reinforced static part that is securely joined to the elastomer sealing lip. The sealing lip is also pre-loaded with a garter spring.



T -30 ... +100 °C

v 15 m/s

p 0,05 MPa

Available materials

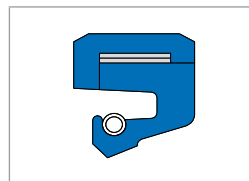
80 NBR B241

Application

Rolling mills

Simmerring Radiamatic® RS 85

Self-holding Simmerring made from two functionally suitable elastomer components and an integrated steel strip. The tension springs support the radial contact pressure on the shaft.



T -30 ... +180 °C

v 20 ... 25 m/s

p 0,05 MPa

Available materials

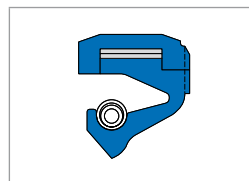
75 HNBR U467, 80 FKM K670,
80 NBR B241, 85 HNBR 10040,
85 NBR B247, 90 FKM K683

Application

Large gearboxes, Rolling mills

Simmerring Radiamatic® RHS 51

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.



T -30 ... +180 °C

v 25 ... 35 m/s

p 0,02 MPa

Available materials

75 HNBR U467, 80 FKM K670,
80 NBR B241, 85 HNBR 10040,
85 NBR B247, 90 FKM K683

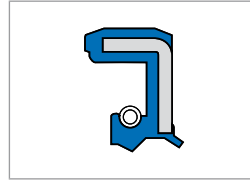
Application

Large gearboxes, Rolling mills

Special product range

Simmerring PPS (Premium Pressure Seal)

Type BA with patented sealing lip pressure loads.



T -40 ... +100, -25 ... +160 °C

v ≤15 m/s

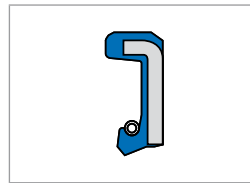
p ≤1,0 MPa

Available materials 72 NBR 902, 75 FKM 595

Application Hydrostatic drives, Retarders

Simmerring BAHDSN for high pressures

Designs made from special materials, with very short sealing lip and with the support of a metal reinforcement situated close to the shaft. A design with lubrication grooves is optionally available. Used primarily at high pressures and medium circumferential speeds in pressurised units such as hydraulic motors and pumps.



Available materials FKM, NBR

Application All hydrostatic drives with low rotational speed

Simmerring HLPS (High Low Pressure Seal)

The Simmerring for hydrostatic drives, characterised by robust sealing behaviour. Particularly for high pressures up to 22 MPa with low friction and losses.

The HNBR material used is extremely resistant to wear and thermal loading.



T -40 ... +120 °C

v ≤2,0 m/s

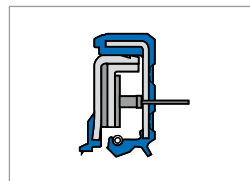
p ≤22 MPa

Available materials HNBR

Application Hydrostatic drives subject to very high stress

Simmerring MSS 1+ (Condition Monitoring)

This is an advanced development of the Simmerring MSS 1 with additional integrated 'condition monitoring' for monitoring the sealing function of the sine wave-shaped sealing lip.



T -25 ... +100, -25 ... +100 °C

v ≤6,0 m/s

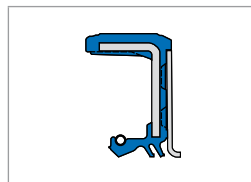
p ≤0,05 MPa

Available materials 72 NBR 902/75 FKM 585,
75 FKM 585/75 FKM 585

Application Drive shafts, Industrial gearboxes, Pumps

Simmerring MSS 3 (Modular Sealing Solution)

Simmerring as basic module with special non-woven material, a PTFE-impregnated non-woven material or a PTFE washer glued on as an additional dust lip for extremely fine dirt, to protect against extremely aggressive external media such as cleaning agents. The MSS 3 is especially characterised by its low friction.



T ≤ +80 °C

v ≤ 5,0 m/s

p ≤ 0,05 MPa

Available materials

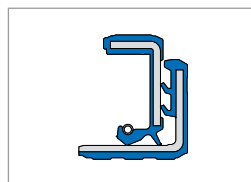
PTFE

Application

Industrial gearboxes

Simmerring MSS 7 (Modular Sealing Solution)

The standard Simmerring BA...U...SL combined with a rubberised slip ring with axial dust lips as one-piece solution. A proven sealing system with high resistance to soiling, water and external environmental conditions and a counter-surface customised for the Simmerring.



T ≤ +80 °C

v ≤ 5,0 m/s

p ≤ 0,05 MPa

Available materials

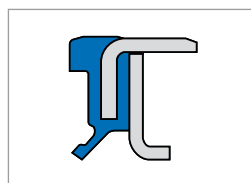
72 NBR 902

Application

Axles for agricultural and construction machinery, Axles for special vehicles, Sealing of special gearboxes (e.g. automated washing system/car wash)

Simmerring PTS (Poly Tech Seal)

Type with friction-optimised PTFE sealing lip for extreme thermal and chemical loads, dry running and insufficient lubrication. Optimal static sealing through partially rubberised outer sleeve. Outstanding static and dynamic sealing effect up to max 0.8 MPa through rotation direction-dependent return pumping lead. Preferably used for high temperatures, aggressive media and other selected applications including crankshaft seals in engine manufacture.



T -60 ... +200 °C

v ≤ 30 m/s

p ≤ 1,0 MPa

Available materials

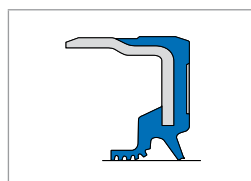
ACM, FKM, HNBR, NBR, PTFE

Application

Compressors, Foodstuffs and chemicals industry, Household appliances, Hydrostatic drives

Simmerring ESS (Energy Saving Seal)

Extremely low-friction Simmerring without spring-loaded sealing lip and with return pumping lead dependent on direction of rotation. With this Simmerring without spring (ESS) the sealing function is provided by the special design and the specific material properties of the elastomers used.



T -30 ... +150, -25 ... +160, -40 ... +100 °C

v ≤ 30 m/s

p ≤ 0,02 MPa

Available materials

70 ACM 121433, 75 FKM 595, 75 NBR 106200

Application

Engines, automobile and industrial gearboxes

Simmerring for reciprocal motions

Special seal suitable for both rotational and reciprocal applications. Also suitable for pressure applications.



T -25... +160, -40... +120, -40... +100 °C

v 40 mm/s

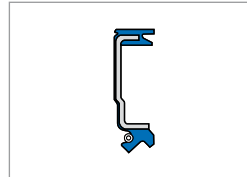
p 13 MPa

Available materials

FKM, HNBR, NBR

Large diameter Simmerrings

Large Simmerrings from 300 to 2000 mm in diameter with closed designs and various types.



Available materials

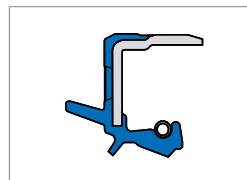
FKM, NBR

Application

Large gearboxes, Paper industry, Steel industry, Mills, Rolling mills

Partially rubberised Simmerrings

Simmerrings with metal housings. Reinforced press-fit seat through partial elastomer sleeve on outer circumference and base.



Available materials

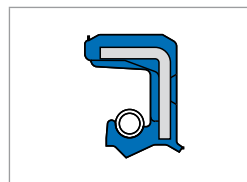
ACM, FKM, HNBR, NBR

Application

Construction machinery, Commercial vehicles

Simmerring in special materials

Many of our Simmerring standard types are also available as versions with special materials. These materials feature especially good media compatibility, high abrasive wear resistance and very good low-temperature behaviour.



Available materials

ACM, FKM, HNBR

Hydraulics

Standard product range Rod Seals

Merkel U-Ring NI 300

Merkel U-ring with asymmetrical profile, inner lip set back, additional support edge and sealing edge as well as press fit at the outside diameter.

Product advantages:

- Single-acting rod seal for standardised housings, amongst others, according to ISO 5597
- Very good static and dynamic tightness
- Additional sealing edge, prevents ingress of dirt to a large degree
- Recommended for use in combination with single-acting wipers

Merkel U-Ring T 20

Merkel U-ring with asymmetrical profile, inner lip set back and press fit at the outside diameter.

Product advantages:

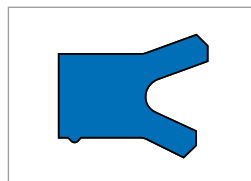
- Single-acting rod seal for standardised housings, amongst others, according to ISO 5597; very suitable as a secondary seal within a sealing system
- Good media resistance
- Wide operating temperature range
- Very good static and dynamic tightness
- Low breakaway force (in comparison to compact seals or U-rings with secondary sealing edge in corresponding material)
- Dynamic deformation value

Merkel U-Ring LF 300

Merkel U-ring with asymmetrical profile, inner lip set back, grooved contact surface on the inside diameter as well as press fit at the outside diameter.

Product advantages:

- Single-acting rod seal for standardised housings, amongst others, according to ISO 5597
- Very good static and dynamic tightness
- Low friction, smooth movement even at low running speeds, dynamic deformation value
- Use as an individual seal or secondary seal in sealing systems possible



T -30 ... +110 °C

v 0,5 m/s

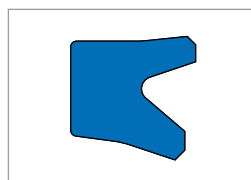
p 40 MPa

Available materials

94 AU 925

Application

Cranes, Earth moving equipment, Presses, Support cylinders



T -30 ... +110 °C

v 0,5 m/s

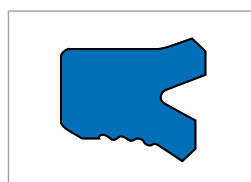
p 40 MPa

Available materials

93 AU V167, 95 AU V142

Application

Agricultural machinery, Cranes, Earth moving equipment, Fork-lift trucks, Injection moulding machines, Loading platforms, Standard cylinders, Support cylinders



T -40 ... +110 °C

v 0,6 m/s

p 32 MPa

Available materials

92 AU 21100, 94 AU 925

Application

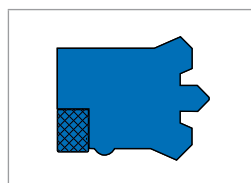
Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles, Injection moulding machines, Loading platforms

Merkel Compact Seal KI 320

Merkel compact seal with integrated back-up ring, additional support edge and sealing edge, components for axial fixing in the housing and press fit at the outside diameter.

Product advantages:

- Single-acting rod seal for heavy duty applications, dimensions for standardised housings, amongst others, according to ISO 5597
- Very good static and dynamic tightness
- High pressures and larger gap widths permissible
- Compact compression, higher surface roughness in the groove base possible
- Additional sealing edge prevents ingress of dirt to a large degree
- Low deformation value, use in combination with single-acting wipers recommended



T -30 ... +110 °C

v 0,5 m/s

p 50 MPa

Available materials

94 AU 925

Application

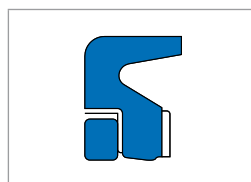
Cranes, Earth moving equipment, Presses, Support cylinders, Telescopic cylinders

Merkel U-Ring Syprim SM

Two-piece Merkel seal set for use as a primary rod seal. The Merkel Syprim SM seal set is always used in a sealing system in combination with U-ring (e.g. Merkel U-Ring T 20).

Product advantages:

- The Merkel U-Ring Syprim SM is designed especially for use as a system seal
- Short primary seal
- No pressure enclosed between primary and secondary seal
- Low friction
- Highly wear-resistant
- Protection against extrusion through activated back-up ring



T -30 ... +110 °C

v 0,5 m/s

p 40 MPa

Available materials

95 AU V142/POM PO202

Application

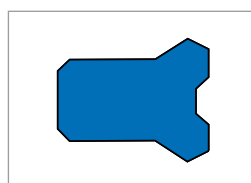
Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles, Injection moulding machines, Standard cylinders

Merkel Compact Seal KI 310

Merkel compact seal with asymmetrical profile.

Product advantages:

- Single-acting rod seal for standardised housings, amongst others, according to ISO 5597
- Very good static and dynamic tightness
- Compact compression, higher surface roughness in the groove base is permitted
- Designed for radially restricted housings



T -30 ... +110 °C

v 0,5 m/s

p 40 MPa

Available materials

94 AU 925

Application

Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles, Injection moulding machines, Loading platforms, Telescopic cylinders

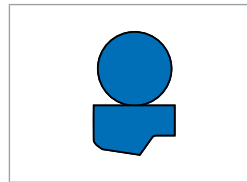
Merkel Omegat OMS-MR

Two-piece Merkel seal set made of PTFE profile ring with one O-ring as a pre-load component.

Product advantages:

Rod seal used in particular in a sealing system.

- Very high resistance to pressure
- Good thermal conductivity
- Very good extrusion resistance
- High resistance to abrasion
- Low friction, free of stick-slip



T -30 ... +200 °C

v 5,0 m/s

p 40 MPa

Available materials

PTFE B602/70 FKM K655,
PTFE B602/70 NBR B276,
PTFE GM201/NBR

Application

Agricultural machinery, Control and regulation equipment, Cranes, Handling equipment, Industrial vehicles, Injection moulding machines, Marine hydraulics, Presses, Rolling mills

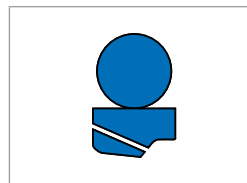
Merkel Omegat OMS-MR PR

Two-component Merkel seal set for sealing piston rods, consisting of one PTFE profile ring with integrated pressure-relief function and an elastomer ring as pre-load component.

Patented product design (patent no.: DE 10117662 CI).

Product advantages:

- Can be exchanged with operating environments of the Merkel Omegat OMS-MR Series.
- Increased operating reliability of sealing systems with demanding operating parameters (no continuously pressure build-up in gap area)
- Extended service life of sealing systems by long-term stability (reduced loading of the sealing system by minimised friction and wear)



T -30 ... +100 °C

v 5,0 m/s

p 40 MPa

Available materials

PTFE B602/NBR, PTFE C104/NBR,
PTFE GM201/NBR

Application

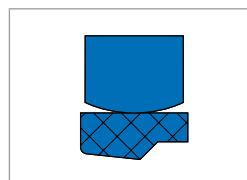
Agricultural machinery, Control and regulation equipment, Cranes, Earth moving equipment, Industrial vehicles, Injection moulding machines, Large cylinders, Marine hydraulics, Presses, Rolling mills

Merkel Omegat OMS-S

Two-piece Merkel seal set for sealing piston rods, consisting of a profile ring with an elastomer profile ring as a pre-load component.

Product advantages:

- Very high resistance to pressure
- Very good extrusion resistance
- Design prevents twisting
- High contact pressure due to elastomer profile ring
- High resistance to abrasion
- Low friction, free of stick-slip



T -30 ... +100 °C

v 5,0 m/s

p 40 MPa

Available materials

PTFE B602/NBR, PTFE GM201/NBR

Application

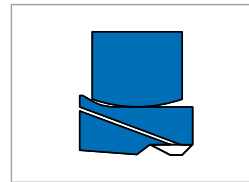
Injection moulding machines, Large cylinders, Manipulators, Marine hydraulics, Presses, Rolling mills, Steel hydraulics engineering

Merkel Omegat OMS-S PR

Two-component Merkel seal set for sealing piston rods, consisting of one PTFE profile ring with integrated pressure-relief function and skid with an elastomer profile ring as pre-load component. Patented product design (patent no.: DE 10117662 CI).

Product advantages:

- Replaceable for operating environments of the Merkel Omegat OMS-S series
- Increased reliability of sealing systems under demanding operating parameters (no continuous pressure build-up in gap area)
- Extended service life of sealing systems by long-term stability (reduced loading of the sealing system by minimised friction and wear)



T -30 ... +100 °C

v 5,0 m/s

p 40 MPa

Available materials

PTFE B602/NBR, PTFE C104/NBR, PTFE GM201/NBR

Application

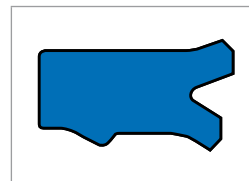
Earth moving equipment, Injection moulding machines, Large cylinders, Presses, Rolling mills, Steel hydraulics engineering

Merkel U-Ring T 24

Merkel U-ring with asymmetrical profile, inner lip set back, additional support edge and sealing edge and press fit at the outside diameter.

Product advantages:

- Very good static and dynamic tightness
- Additional sealing edge prevents ingress of dirt to a large degree
- (Note: low dynamic deformation value, therefore not suitable for sealing systems)



T -30 ... +110 °C

v 0,5 m/s

p 40 MPa

Available materials

95 AU V142

Application

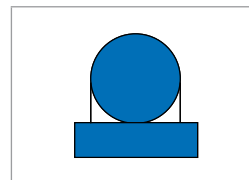
Telescopic cylinders

Merkel Compact Seal TFMI

Two-piece Merkel compact seal consisting of profile ring and O-ring as a pre-load component.

Product advantages:

- Rod seal for lower pressure range
- Low friction
- Low housing height



T -30 ... +100 °C

v 2,0 m/s

p 16 MPa

Available materials

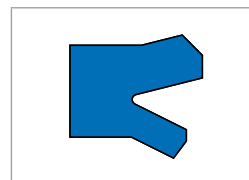
PTFE 177023/NBR

Merkel U-Ring NI 150

Merkel U-ring with asymmetrical profile of the sealing lips.

Product advantages:

- Single-acting rod seal, for applications such as standardised housings according to ISO 5597; preferably for spare parts requirements



T -30 ... +100 °C

v 0,5 m/s

p 10 MPa

Available materials

80 NBR 878

Application

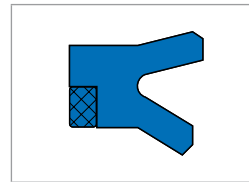
Agricultural machinery, Earth moving equipment, Mobile hydraulics

Merkel U-Ring NI 250

Merkel U-ring with asymmetrical profile of the sealing lips and back-up ring as a gap sealing component.

Product advantages:

- Single-acting rod seal for medium loads, predominantly for spare parts requirements



T -30 ... +100 °C

v 0,5 m/s

p 25 MPa

Available materials

80 NBR 878/POM

Application

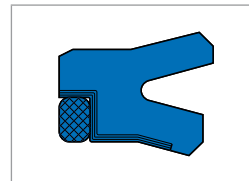
Earth moving equipment, Excavators, Forestry equipment, Special cylinders

Merkel U-Ring NI 400

Merkel U-ring with asymmetrical profile of the sealing lips, fabric reinforcement on the dynamic sealing side and back-up ring as a gap sealing component.

Product advantages:

- Single-acting rod seal for medium loads, predominantly for spare parts requirements.



T -30 ... +100 °C

v 0,5 m/s

p 40 MPa

Available materials

80 NBR 878/POM

Application

Control and regulation equipment, Heavy duty earth moving equipment, Industrial vehicles, Presses

Merkel Chevron Seal Set ES, ESV

Multi-component Merkel seal set for sealing piston rods, consisting of a pressure ring, at least 3 seals and a back-up ring. The Merkel Chevron Seal Sets are available in 3 different designs.

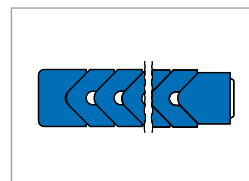
Type A has 3 to 5 fabric roof-shaped seals and can be installed in adjustable or non-adjustable sealing areas.

Type B has 3 to 5 fabric roof-shaped seals, one rubber-sprung back-up ring and is installed in non-adjustable sealing areas. Constant axial pre-load.

Type C has 2 to 4 fabric roof-shaped seals, one rubber seal and can be installed in adjustable and non-adjustable sealing areas. For an enhanced sealing effect. Type A and Type B can be supplied in open form. Type C is always delivered in endless form.

Product advantages:

- Proven under extreme conditions
- Long service life
- Can be optimally adjusted to the related application
- Functions over a certain time period even with poorer surfaces
- For application and design-related reasons fluctuations in the leakage behaviour and friction behaviour are to be expected



T -30 ... +140 °C

v 0,5 m/s

p 40 MPa

Available materials

BI-FKM/85 FKM, BI-NBR/85 NBR

Application

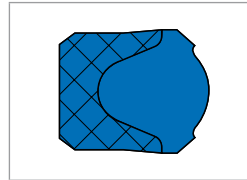
Injection moulding machines, Iron and steel technology, Marine hydraulics, Presses, Scrap cutters, Special cylinders, Steel hydraulics engineering

Merkel Compact Seal S 8

Single-piece rod seal with a rubber head set in the fabric part.

Product advantages:

- Compact rod seal, also for standardised housings according to ISO 5597
- Easy to fit
- Excellent sealing effect also in the lower pressure range
- Low friction due to the fabric part



T -30 ... +100 °C

v 0,5 m/s

p 25 MPa

Available materials

70 NBR B209

Application

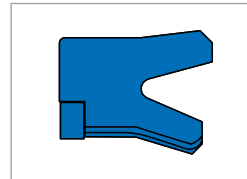
Machine tools, Spindle seals, Standard cylinders, Telescopic cylinders

Merkel U-Ring Seal Set 0214

Two-piece Merkel seal set comprising an elastomer U-ring with an elastomer sealing edge, fabric reinforcement on the contact area and an active back-up ring.

Product advantages:

- Low friction due to fabric reinforcement
- Large range of dimensions
- Protection against extrusion through activated back-up ring
- Low deformation value (not suitable for sealing systems)
- Easily installed in non-axial housings
- From 100 mm diameter



T -30 ... +100 °C

v 1,5 m/s

p 25/40 MPa

Available materials

80 NBR B246/BI-NBR B4 B248/
PA 6.G200, 80 NBR B246/
BI-NBR B4 B248/POM PO202

Application

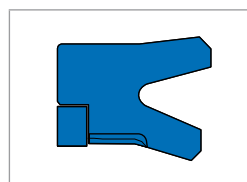
Injection moulding machines, Iron and steel technology, Marine hydraulics, Presses, Scrap cutters, Special cylinders, Steel hydraulics engineering

Merkel U-Ring Seal Set 0216

Two-piece Merkel seal set comprising an elastomer U-ring with an elastomer sealing edge, fabric reinforcement on the contact area and an active back-up ring. Merkel U-Ring Seal Set 0216 can also be used for pneumatic applications.

Product advantages:

- Low friction due to fabric part
- Large range of dimensionse
- Protection against extrusion through activated back-up ring
- Low deformation value (not suitable for sealing systems)
- Easily installed in non-axial housings
- From 100 mm diameter



T -30 ... +100 °C

v 1,5 m/s

p 25/40 MPa

Available materials

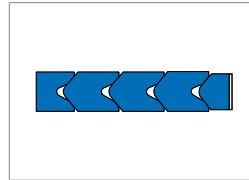
80 NBR B246/BI-NBR B4 B248/
PA 6.G200, 80 NBR B246/
BI-NBR B4 B248/POM PO202

Application

Pneumatic applications

Merkel V-Packings V 1000

Merkel V-packings are used for sealing piston rods, plungers and in exceptional cases of pistons. With their robust design they are very suitable for use in highly demanding, heavy and horizontal compressors, particularly if the plungers are subject to large side forces. V-packings can even be used if piston rods or plungers cannot be correctly used because of wear. V-packing in connection with fabric pressure and back-up rings are used primarily in heavy-duty hydraulics because they can easily be tightened at any time and their robust design. V-packing rings are supplied open for nominal diameter up to an inside diameter of 400 mm. For larger diameters the rings are overdimensioned in length, and they must be precisely fitted during fitting into the compression packing. If required endless rings can also be supplied. If no information on the version, the fluid or temperature is given, B/B is delivered as the standard version.



T -30 ... +100 °C

Available materials

BI-NR B5A151 (B/A),
BI-NR B5B210 (B/B)

Application

Heavy machinery manufacture, Iron and steel technology, Manipulators

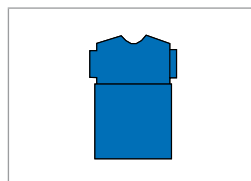
Standard product range Piston Seals

Merkel Compact Seal Simko 300

Two-piece Merkel Compact Seal Simko 300 comprising one profile ring with pronounced sealing edge and one contact pressure element for producing the pre-load.

Product advantages:

- Double-acting Merkel piston seal
- Good static and dynamic tightness
- Low friction, smooth movement even at low running speeds
- Contact pressure element with rectangular cross-section, prevents twisting in the housing
- Standardised housings according to ISO 7425
- Low axial housing heights



T -30 ... +100 °C

v 0,5 m/s

p 40 MPa

Available materials

98 AU 928/72 NBR 872,
98 AU 928/80 NBR 709

Application

Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles, Injection moulding machines, Loading platforms

Merkel Omegat OMK-MR

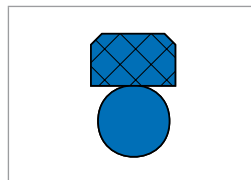
Two-piece Merkel seal set for sealing pistons, consisting of one PTFE profile ring and an O-ring as a pre-load component.

Product advantages:

Merkel Omegat OMK-MR is used where a piston has pressure on both sides. OMK-MR is provided with pressure-compensation grooves for rapid pressure change

Very high resistance to pressure and hardness

- Good thermal conductivity
- Very good protection against extrusion
- High resistance to abrasion
- Low friction, free of stick-slip



T -30 ... +200 °C

v 5,0 m/s

p 40 MPa

Available materials

PTFE B602/70 FKM K655,
PTFE B602/70 NBR B276,
PTFE GM201/70 NBR B276

Application

Agricultural machinery, Control and regulation equipment, Cranes, Handling equipment, Industrial vehicles, Injection moulding machines, Marine hydraulics, Presses, Rolling mills

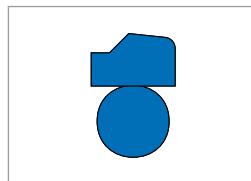
Merkel Omegat OMK-E

Two-piece Merkel seal set for sealing pistons, consisting of one PTFE profile ring and an O-ring as a pre-load component.

Product advantages:

Merkel Omegat OMK-E can be used where a sealing piston has pressure on one side, amongst others, in standardised housings according to ISO 7425/1. Rod diameters in agreement with ISO 3320.

- Very high resistance to pressure and hardness
- Good thermal conductivity
- Very good protection against extrusion
- High resistance to abrasion
- Low friction, free of stick-slip



T -30 ... +200 °C

v 5,0 m/s

p 40 MPa

Available materials

PTFE B602/70 FKM K655,
PTFE B602/70 NBR B276,
PTFE GM201/70 NBR B276

Application

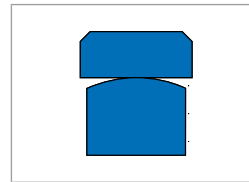
Agricultural machinery, Control and regulation equipment, Cranes, Handling equipment, Industrial vehicles, Injection moulding machines, Marine hydraulics, Presses, Rolling mills

Merkel Omegat OMK-S

Two-piece Merkel seal set for sealing pistons consisting of one PTFE profile ring and one elastomer profile ring as a pre-load component. The seal set is designed for heavy duty hydraulic applications.

Product advantages:

- The Merkel Omegat OMK-S can be used where a piston has pressure on both sides and is designed especially for large diameters
- Very high resistance to pressure
- Design prevents twisting
- Very good protection against extrusion
- High resistance to abrasion
- Good thermal conductivity
- Low friction, free of stick-slip
- High contact pressure due to elastomer profile ring



T -30 ... +100 °C

v 5,0 m/s

p 40 MPa

Available materials

PTFE B602/80 NBR B246,
PTFE GM201/80 NBR B246

Application

Injection moulding machines, Large cylinders, Manipulators, Marine hydraulics, Presses, Rolling mills, Steel hydraulics engineering

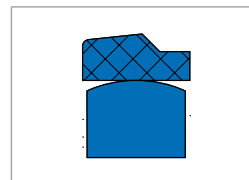
Merkel Omegat OMK-ES

Two-piece Merkel seal set for sealing pistons, consisting of one PTFE profile ring and an elastomer profile ring as a pre-load component.

Product advantages:

The Merkel Omegat OMK-ES is for use where sealing pistons have pressure on one side. The Merkel Omegat OMK-ES series is designed especially for large diameters and for heavy duty hydraulic applications

- Very high resistance to pressure
- Design prevents twisting
- Very good protection against extrusion
- High resistance to abrasion
- Good thermal conductivity
- Low friction, free of stick-slip
- High contact pressure due to elastomer profile ring



T -30 ... +100 °C

v 5,0 m/s

p 40 MPa

Available materials

PTFE B602/80 NBR B246,
PTFE GM201/80 NBR B246

Application

Injection moulding machines, Manipulators, Marine hydraulics, Presses, Rolling mills, Steel hydraulics engineering

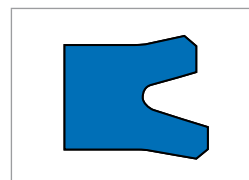
Merkel U-Ring NA 300

Merkel U-ring with asymmetrical profile, outer lip set back and press fit at the inside diameter.

Product advantages:

Single-acting piston seal for standardised housings, amongst others, according to ISO 5597

- Very good static and dynamic tightness



T -30 ... +110 °C

v 0,5 m/s

p 40 MPa

Available materials

94 AU 925

Application

Earth moving equipment, Presses, Support cylinders

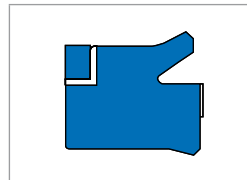
Merkel U-Ring T 18

Merkel U-ring with integrated back-up ring, asymmetrical profile with pressure-relieving grooves, outer lip set back and press fit at the inside diameter.

Product advantages:

Single-acting piston seal also for standardised housings according to ISO 5597

- Very good static and dynamic tightness
- High extrusion resistance (back-up ring)
- "back-to-back" arrangement for pistons with pressure on both sides
- High reliability
- Relief grooves against dynamic drag pressure



T -30 ... +110 °C

v 0,5 m/s

p 40 MPa

Available materials

95 AU V142/POM PO202

Application

Cranes, Earth moving equipment, Scrap presses

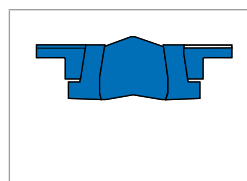
Merkel Compact Seal L 43

Five-piece Merkel compact seal L 43 comprising one profile ring, two back-up rings and two angled bushes.

Product advantages:

The Merkel Piston Seal L 43 is used for sealing pistons with pressure on both sides. The angled rings guide the piston on the cylinder bore.

- No extrusion into the radial sealing gap
- Suitable for rapid pressure change
- Sealing component protected against twisting



T -30 ... +100 °C

v 0,5 m/s

p 40 MPa

Available materials

78 NBR B281/97 TPE TP113/PA 6.501

Application

Agricultural machinery, Cranes, Earth moving equipment, Standard cylinders

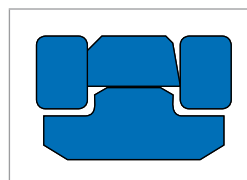
Merkel Compact Seal L 27

Four-piece Merkel Compact Seal L 27 comprising one pre-load component (NBR), two active back-up rings (POM) and one PTFE bronze profile ring.

Product advantages:

The Merkel Piston Seal L 27 is used where a piston has pressure on both sides. The activated back-up rings offer good protection against extrusion even with gaps for breathing

- Bridges large radial gaps
- Very good protection against extrusion even with pressure peaks
- High resistance to abrasion
- Low friction, free of stick-slip
- High contact pressure due to elastomer profile ring



T -30 ... +100 °C

v 1,5 m/s

p 50 MPa

Available materials

PTFE B602/85 NBR B203/
POM PO202, PTFE B602/
85 NBR B247/POM PO202

Application

Earth moving equipment, Excavators, Injection moulding machines, Presses

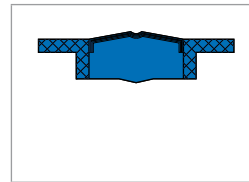
Merkel Compact Seal Simko 320 X2

Three-piece Merkel Compact Seal Simko 320 X2 consisting of a fabric reinforced elastomeric sealing element and two guide back-up rings.

We recommend use of more recent series for new designs.

Product advantages:

Double-acting Merkel piston seal with integrated guide back-up rings.



T -30 ... +100 °C

v 0,5 m/s

p 40 MPa

Available materials

80 NBR 878/PA

Application

Agricultural machinery, Cranes, Earth moving equipment, Standard cylinders

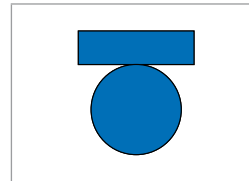
Merkel Compact Seal TFMA

Two-piece Merkel Compact Seal TFMA comprising a profile ring and O-ring as a pre-load component.

Product advantages:

Double-acting piston seal for the lower pressure range with the properties of

- Low friction
- Low housing height



T -30 ... +100 °C

v 2,0 m/s

p 16 MPa

Available materials

PTFE 177023/NBR

Application

Cranes, Standard cylinders

Merkel Compact Seal T 19

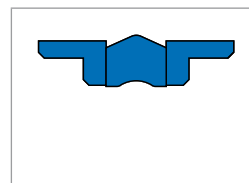
Three-piece Merkel Compact Seal T 19 with two angled bushes (POM) and one sealing component of polyurethane.

We recommend use of more recent series for new designs.

Product advantages:

The Merkel Compact Seal T 19 is used where a piston has pressure on both sides and is designed mainly for housings according to ISO 6547

- Good guiding
- Highly wear-resistant
- Easy fitting
- Short



T -30 ... +110 °C

v 0,5 m/s

p 21 MPa

Available materials

95 AU V142

Application

Agricultural machinery, Standard cylinders

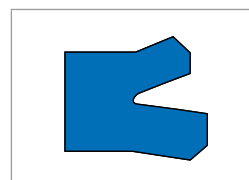
Merkel U-Ring NA 150

Merkel U-ring with asymmetrical profile of the sealing lips.

We recommend use of more recent series for new designs.

Product advantages:

Single-acting piston seal, preferably for spare parts requirement.



T -30 ... +100 °C

v 0,5 m/s

p 10 MPa

Available materials

80 NBR 878

Application

Agricultural machinery, Earth moving equipment, Industrial vehicles

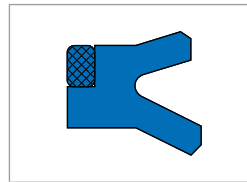
Merkel U-Ring NA 250

Merkel U-ring with asymmetrical profile of the sealing lips and back-up ring as a gap sealing component.

We recommend use of more recent series for new designs.

Product advantages:

Single-acting piston seal for medium load, preferably for spare parts requirement.



T -30 ... +100 °C

v 0,5 m/s

p 25 MPa

Available materials

80 NBR 878/POM

Application

Earth moving equipment, Excavators,
Forestry equipment, Standard cylinders

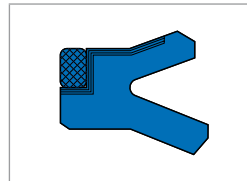
Merkel U-Ring NA 400

Merkel U-ring with asymmetrical profile of the sealing lips, fabric reinforcement on the dynamic sealing side and back-up ring as a gap sealing component.

We recommend use of more recent series for new designs.

Product advantages:

Single-acting piston seal for medium load, preferably for spare parts requirement.



T -30 ... +100 °C

v 0,5 m/s

p 40 MPa

Available materials

80 NBR 878/POM

Application

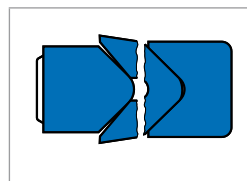
Earth moving equipment, Industrial
vehicles, Mobile hydraulics, Presses

Merkel Chevron Seal Set EK, EKV

Multi-part Merkel Chevron Seal Set comprising one thrust ring, one or two seals and a back-up ring.

Product advantages:

- Seal set for robust operating conditions, predominantly the provision of spare parts for older plant. Merkel Chevron Seal Set EK, EKV can be used for pistons with pressure on one side or "back to back" for pistons with pressure on both sides.
- Proven under extreme conditions
- High durability
- Can be optimally adjusted to the related application
- Functions over a certain time period even with poorer surfaces
- Insensitive to soiling
- For application and design related reasons, fluctuations in the leakage behaviour and in the friction behaviour are to be expected



T -30 ... +140 °C

v 0,5 m/s

p 40 MPa

Available materials

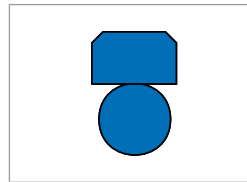
BI-FKM/85 FKM, BI-NBR/85 NBR

Application

Injection moulding machines, Iron and
steel technology, Marine hydraulics,
Presses, Scrap cutters, Special cylinders,
Steel hydraulics engineering

Merkel Omegat OMKU-MR

The seal consists of a polyurethane profile ring and an O-ring as a pre-load component. It is used for double-acting pistons. The OMKU-MR is equipped with pressure-compensating grooves to accommodate rapid pressure changes.



T -30 ... +100 °C

v 5,0 m/s

p 26 MPa

Available materials

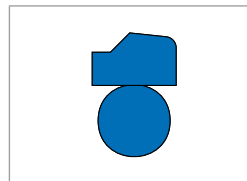
Polyurethane

Application

Agricultural machinery, Control and regulation equipment, Cranes, Handling equipment, Industrial vehicles, Injection moulding machines, Marine hydraulics, Presses, Rolling mills

Merkel Omegat OMKU-E

Used for single-acting pistons and consists of a polyurethane profile ring and an O-ring as a pre-load component.



T -30 ... +100 °C

v 5,0 m/s

p 16 MPa

Available materials

Polyurethane

Application

Agricultural machinery, Control and regulation equipment, Cranes, Handling equipment, Industrial vehicles, Injection moulding machines, Marine hydraulics, Presses, Rolling mills

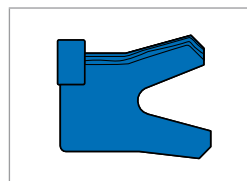
Merkel U-Ring Seal Set 0215

Two-piece Merkel seal set comprising an elastomer U-ring with a fabric reinforcement on the contact area up to over the sealing edge and an active back-up ring.

Product advantages:

Single-acting piston seal for use in hydraulics or pneumatics

- Low friction due to fabric reinforcement
- Large range of dimensions
- Activated back-up ring prevents extrusion



T -30 ... +100 °C

v 1,5 m/s

p 25/40 MPa

Available materials

80 NBR B246/BI-NBR B4 B248/
PA 6.G200, 80 NBR B246/
BI-NBR B4 B248/POM PO202

Application

Injection moulding machines, Iron and steel technology, Marine hydraulics, Pneumatic cylinders, Presses, Scrap cutters, Steel hydraulics engineering

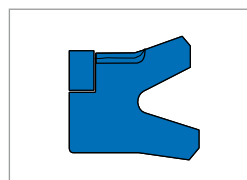
Merkel U-Ring Seal Set 0217

Two-piece Merkel seal set comprising an elastomer U-ring with an elastomer sealing edge, a fabric reinforcement on the contact area and an active back-up ring.

Product advantages:

Single-acting piston seal for use in hydraulics or pneumatics

- Low friction due to fabric reinforcement
- Large range of dimensions
- Activated back-up ring prevents extrusion



T -30 ... +100 °C

v 1,5 m/s

p 25/40 MPa

Available materials

80 NBR B246/BI-NBR B4 B248/
PA 6.G200, 80 NBR B246/
BI-NBR B4 B248/POM PO202

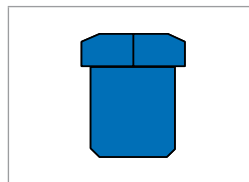
Application

Pneumatic applications

Merkel Compact Seal HDP 330

Two-part seal set for sealing pistons, consisting of a PA slide ring with a stepped cut and an elastomer contact pressure element for producing pre-load.

- Product advantages:
- Extreme strength against gap extrusion thanks to the PA sliding component
- Extremely high abrasion resistance
- Stepped cut for easy fitting in a closed housing
- Greater surface roughness partly permissible in comparison to conventional seals
- Rectangular contact pressure element produces consistently high pre-loading force and offers high protection against twisting in the housing
- Housings should preferably comply with ISO 7425-1
- Dynamic and static tightness comparable to PTFE piston seals



T -30 ... +100 °C

v 0,8 m/s

p 60 MPa

Available materials

PA 4112/70 NBR 177605

Application

Agricultural machinery, Earth moving equipment, Industrial vehicles, Loading platforms

Standard product range Wipers

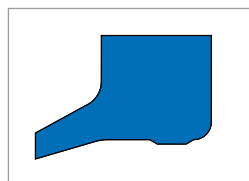
Merkel Wiper P 6

Single-acting elastomeric dirt wiper with bearing segments.

Product advantages:

NBR dirt wiper that is primarily used for large diameters

- Good seating at the outside diameter
- Very good wiping action
- Wiper can be used for a wide temperature range
- No twisting in the housing and no pressure build-up between seal and wiper



T -30 ... +200 °C

v 2,0 m/s

Available materials

85 FKM K664, 85 NBR B247

Application

Presses, Rolling mills, Steel hydraulics engineering

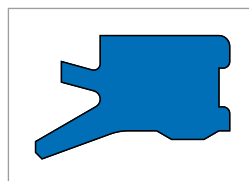
Merkel Wiper PU 5

Dirt wiper with additional static sealing lip and bearing segments; sealing edge of wiper lip slightly rounded.

Product advantages:

Single-acting wiper, use also in standardised housings according to ISO 6195 Type A

- Additional static sealing lip prevents ingress of dirt and water spray
- Wiper lip with slightly rounded sealing edge reliably wipes dirt away and leaves a residual oil film on the retracting rod; friction behaviour and service life are improved
- The support on the wiper heel prevents twisting in the groove as well as pressure build-up between wiper and seal



T -30 ... +110 °C

v 2,0 m/s

Available materials

95 AU V149

Application

Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles, Injection moulding machines, Loading platforms, Mining, Presses, Support cylinders, Telescopic cylinders

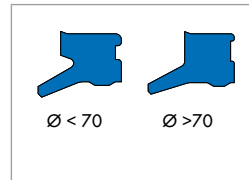
Merkel Wiper PU 6

Single-acting PUR wiper with static sealing edge on the outside diameter.

Product advantages:

Dirt wiper with bearing segments on the heel of the wiper and lightly rounded wiper lip

- No ingress of dirt and water spray via outside diameter
- Reliably wipes away dirt
- Leaves a residual film of oil on retracting rod
- No twisting and pressure build-up between seal and wiper
- Highly wear-resistant



T -30 ... +110 °C

v 2,0 m/s

Available materials

95 AU V149

Application

Earth moving equipment, Injection moulding machines, Mining, Presses, Support cylinders

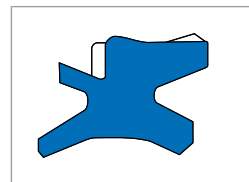
Merkel Double Wiper PRW 1

Merkel Double Wiper PRW 1 with integrated pressure-relief function and special sealing and wiping edge geometry.

Product advantages:

Double wiper for housings based on ISO 6195 Type A

- No pressure build-up between wiper and rod seal due to integrated pressure relief (patented).
- Improved sealing of overall system due to dynamic sealing lip with punched sealing edge.
- Wiping lip has outstanding wiping action against dirt
- Static sealing lip for additional protection against ingress of dirt and water



T -30 ... +110 °C

v 1,0 m/s

Available materials

92 AU 21100, 94 AU 925

Application

Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles, Loading platforms, Support cylinders

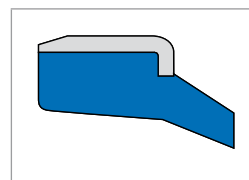
Merkel Wiper AUAS

Dirt wiper with metal housing, wiper lip protruding with sharp, punched sealing edge.

Product advantages:

Single-acting wiper for the protection of cylinders against ingress of dirt, use in standardised housings, amongst others, according to ISO 6195 Type B

- Secure seating in housing (press fitting)
- No open ring gap to the outside (dirt pocket) between rod and wiper housing
- No pressure build-up between wiper and seal
- Axially open, easy to manufacture housing



T -30 ... +110 °C

v 2,0 m/s

Available materials

94 AU 925

Application

Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles, Loading platforms, Presses, Support cylinders

Merkel Wiper AUAS R

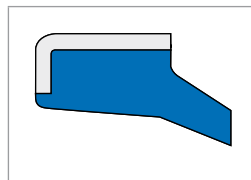
Dirt wiper with metal housing, wiper lip protruding; AUAS with slightly rounded sealing edge.

Product advantages:

Single-acting wiper for the protection of cylinders against ingress of dirt, use in standardised housings, amongst others, according to IS 6195 Type B

- Secure seating in housing (press fitting)
- No open ring gap to the outside (dirt pocket) between rod and wiper housing
- No pressure build-up between wiper and seal
- Axially open, easy to manufacture housing

The wiper lip with a radius reliably wipes away dirt and simultaneously leaves a residual film of oil on the retracting rod; friction behaviour, tightness and service life of the whole system are further improved.



T -30 ... +110 °C

v 2,0 m/s

Available materials

94 AU 925

Application

Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles, Loading platforms, Presses, Support cylinders

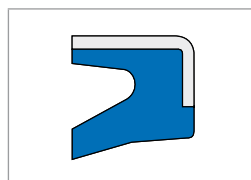
Merkel Wiper AUPS

Dirt wiper with metal housing; wiper lip flush with housing.

Product advantages:

Single-acting wiper for the protection of cylinders against ingress of dirt; especially also as protective component and sealing component for pivoting bearings, amongst others, in standardised housings according to ISO 6195 Type B

- Secure seating in the housing (press fitting), no rotation with the shaft on pivoting motion
- Re-greasing of pivoting bearings possible without problems; lip opens at low overpressure; old grease can escape
- Low axial housing height, wiper lip not protruding
- Axially open, easy to manufacture housing



T -30 ... +110 °C

v 2,0 m/s

Available materials

94 AU 925

Application

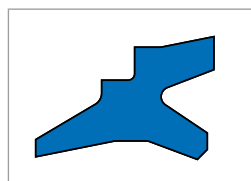
Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles, Loading platforms, Pivoting pin seal, Support cylinders

Merkel Double Wiper P 8

Product advantages:

The Merkel Double Wiper P 8 exerts inwards the wiping function of a U-ring, and a wiping action outwards against soiling

- Product advantages:
- Strong wiping action against dirt
- Very good sealing effect against residual film of oil on the extending rod
- Wear-resistant



T -30 ... +100 °C

v 1,0 m/s

Available materials

85 NBR B247, 90 NBR 109

Application

Industrial vehicles, Injection moulding machines, Presses

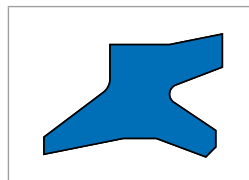
Merkel Double Wiper P 9

Elastomer double wiper especially for large diameters.

Product advantages:

The Merkel Double Wiper P 9 exerts inwards the wiping function of a U-ring, and a wiping action outwards against soiling.

- Intermediate sizes without mould/tool possible
- Strong wiping action against dirt
- Very good sealing effect against residual film of oil on the extending rod
- Wear-resistant



T -30 ... +100 °C

v 1,0 m/s

Available materials

85 NBR B247

Application

Injection moulding machines, Presses, Standard cylinders (large)

Merkel Double Wiper PU 11

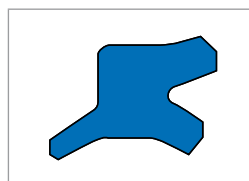
U-ring with wiper lip (double-lip wiper); sealing edge of wiper lip lightly rounded.

Product advantages:

Double wiper for improvement of total tightness; dimensions also for standardised housing according to ISO 6195 Type C

- Sealing lips pointing inwards fulfil the function of a U-ring
- Wiper lip with lightly rounded sealing edge reliably wipes away dirt and leaves a residual oil film on the retracting rod
- Tightness, service life and friction behaviour of the entire system are improved.

Merkel Double Wiper PU 11 can take pressures up to 1,6 MPa. If higher pressures can build, up we recommend a pressure relieving bore between seal and wiper



T -30 ... +110 °C

v 1,0 m/s

Available materials

95 AU V142

Application

Industrial vehicles, Injection moulding machines, Standard cylinders

Merkel Double Wiper PT 1

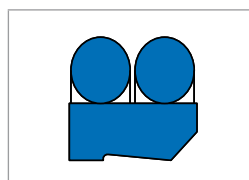
Merkel Double Wiper PT 1 consisting of one profile ring made of PTFE with a sealing edge and a wiper edge, as well as two O-rings as sealing and pre-load components.

Product advantages:

Double wiper for improvement of total tightness. Merkel Double Wiper PT 1 is preferably fitted in combination with our rod seals Merkel Omegat OMS-MR, Merkel Compact Seal T 20 or Merkel U-Ring LF 300.

- Low friction, free of stick-slip
- Excellent regulation and positioning in operation
- Material variants for short stroke and high frequency; available on enquiry
- High reliability, can accept the full operating pressure for short periods

We recommend a pressure relieving bore. With buffer seals with good deformation value, pressure relief is not necessary. In any case, on the combination of seals without sufficient deformation value, e.g. Merkel Compact Seal NI 300, KI 310 and KI 320, a pressure relieving bore is required.



T -30 ... +200 °C

v 5,0 m/s

Available materials

PTFE B602/FKM, PTFE B602/NBR, PTFE GM201/FKM, PTFE GM201/NBR

Application

Agricultural machinery, Control and regulation equipment, Handling equipment, Industrial vehicles, Injection moulding machines, Large cylinders, Presses, Rolling mills

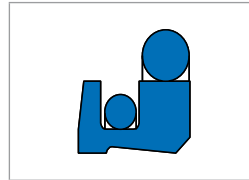
Merkel Double Wiper PT 2

Merkel Double Wiper PT 2 consisting of one profile ring made from PTFE with a sealing edge and a wiper edge, as well as two O-rings as sealing and pre-load components.

Product advantages:

Double wiper for improvement of total tightness. The Merkel Double Wiper PT 2 is mainly fitted in combination with our rod seals Merkel Omegat OMS-S. A pressure relieving bore is to be provided between seal and wiper.

- Excellent regulation and positioning in operation
- Low friction, free of stick-slip
- Material variants for short stroke and high frequency; available on enquiry
- Especially suitable for large diameters



T -30 ... +200 °C

v 5,0 m/s

Available materials

PTFE B602 / 70 NBR B276 ,
70 FKM K655

Application

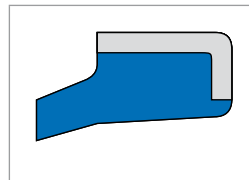
Injection moulding machines, Presses,
Rolling mills, Steel hydraulics engineering

Merkel Wiper AS

Dirt wiper with metal housing; wiper lip protruding.

Product advantages:

Single-acting wiper for the protection of cylinders against ingress of dirt, use in standardised housings, amongst others, according to ISO 6195 Type B.



T -30 ... +100 °C

v 2,0 m/s

Available materials

88 NBR

Application

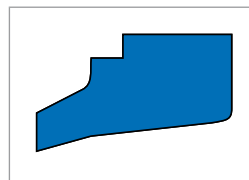
Standard cylinders

Merkel Wiper ASOB

Dirt wiper with protruding wiper lip without metal reinforcement.

Product advantages:

Single-acting wiper for the protection of cylinders against ingress of dirt.



T -30 ... +100 °C

v 2,0 m/s

Available materials

88 NBR 101

Application

Standard cylinders

Standard product range Guides

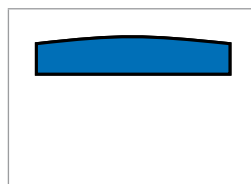
Merkel Guide Ring Guivex SBK

Profiled Merkel Guide Ring Guivex SBK made from fabric-base laminate. Patented product design (patent-no.: PCT/EP95/03874).

Product advantages:

Merkel SBK guide rings offer clear advantages over conventional guide strips/rings, designed for standardised housings according to ISO 10766 amongst others.

- Interchangeable to existing operating environments of the types SB and SF
- High radial load
- Very good utilisation of the guide length through even distribution of stress
- Improved drawing-in of lubricating medium through optimised distribution of stress in the contact zone between guide ring and counter-acting surface
- Reduced stick-slip tendency
- Outstanding running behaviour with short guide distances (no clamping)



T -40 ... +120 °C

Available materials

HGW HG517, HGW HG650

Application

Heavy-duty hydraulics, Long stroke cylinders (piston rod bowing under load), Mobile hydraulics

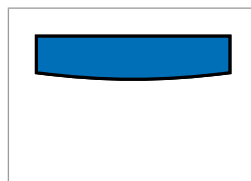
Merkel Guide Ring Guivex KBK

Profiled Merkel Guide Ring Guivex KBK made from fabric-base laminate. Patented product design (patent-no.: PCT/EP95/03874).

Product advantages:

Merkel KBK guide rings offer clear advantages over conventional guide strips/rings, designed for standardised housings according to ISO 10766 amongst others.

- Interchangeable to existing operating environments of the types KB and KF
- High radial load
- Very good utilisation of the guide length through even distribution of stress
- Improved drawing-in of lubricating medium through optimised distribution of stress in the contact zone between guide bush and counter-acting surface
- Reduced stick-slip tendency
- Outstanding running behaviour with short guide distances (no clamping)



T -40 ... +120 °C

Available materials

HGW HG517, HGW HG650

Application

Heavy-duty hydraulics, Long stroke cylinders (piston rod bowing under load), Mobile hydraulics

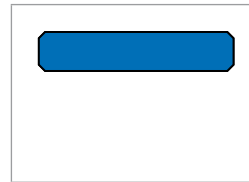
Merkel Guide Ring SB

Non-metallic Merkel Rod Guide Ring SB.

Product advantages:

As a non-metallic guide element for rods, also for standardised housings according to ISO 10766

- Metal/fabric-base laminate materials combination prevents "seizing"
- High load-bearing capacity, elastic (not plastic) behaviour up to break point
- Chamfered profile edges prevent pressing of edge into the corner radii of the housing groove
- Simple snap-in fitting ($d \leq 300$)



T -40 ... +120 °C

Available materials

HGW HG517, HGW HG600

Application

Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles, Injection moulding machines, Loading platforms, Presses, Steel hydraulics engineering, Support cylinders

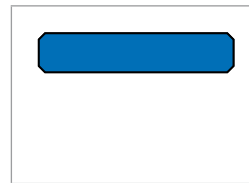
Merkel Guide Ring KB

Non-metallic Merkel Guide Ring KB.

Product advantages:

Non-metallic guide element for pistons, also for standardised housings according to ISO 10766

- Metal/fabric-base laminate materials combination prevents "seizing"
- High load-bearing capacity, elastic (not plastic) behaviour up to break point
- Chamfered profile edges prevent pressing of edge into the corner radii of the housing groove
- Simple snap-in fitting ($d \leq 300$)



T -40 ... +120 °C

Available materials

HGW HG517, HGW HG600

Application

Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles, Injection moulding machines, Loading platforms, Presses, Steel hydraulics engineering, Support cylinders

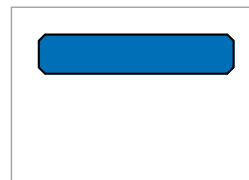
Merkel Guide Ring FRI

Slit, non-metallic Merkel Guide Ring FRI.

Product advantages:

Non-metallic guide element for rods; for standardised housings amongst others, according to ISO 10766

- No seizure due to metal/plastic materials combination
- Medium load-bearing capacity
- Chamfered profile edges prevent pressing of edge into the corner radii of the housing groove
- Simple snap-in fitting



T -30 ... +100 °C

v 1,0 m/s

Available materials

PA 4112

Application

Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles

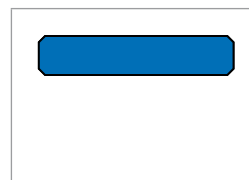
Merkel Guide Ring FRA

Slit, non-metallic Merkel Guide Ring FRA.

Product advantages:

As a non-metallic guide element for pistons, for standardised housings, amongst others, according to ISO 10766

- No seizure due to metal/plastic materials combination
- Medium load-bearing capacity
- Chamfered profile edges prevent pressing of edge into the corner radii of the housing groove
- Simple snap-in fitting



T -30 ... +100 °C

v 1,0 m/s

Available materials

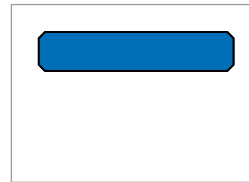
PA 4112

Application

Agricultural machinery, Cranes, Earth moving equipment, Industrial vehicles

Merkel Guide Strip FB

Starting material for manufacture of piston guides (FBA) and rod guides (FBI) for light loads. Made from bronze-filled PTFE for steel cylinders. Made from carbon-filled PTFE for lightweight and non-ferrous metal cylinders. Available ready to fit cut to size or by the metre.



T -40 ... +200 °C

v 5,0 m/s

Available materials

PTFE 40/177024

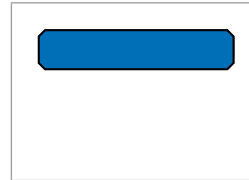
Merkel Guide Strip SF

Non-metallic Merkel Guide Strip SF, available ready to fit cut to size or by the metre.

Product advantages:

As a non-metallic guide element for pistons, for standardised housings, amongst others, according to ISO 10766

- No seizure due to metal/plastic materials combination
- Medium load-bearing capacity
- Chamfered profile edges prevent pressing of edge into the corner radii of the housing groove
- Simple snap-in fitting



T -40 ... +200 °C

Available materials

PTFE B500

Application

Control and regulation equipment,
Handling equipment, Injection moulding machines

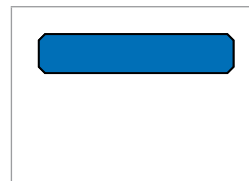
Merkel Guide Strip KF

Non-metallic Merkel Guide Strip KF, available ready to fit cut to size or by the metre.

Product advantages:

Non-metallic guide element for pistons, also for standardised housings as per ISO 10766

- Low friction, free of stick-slip



T -40 ... +200 °C

Available materials

PTFE B500

Application

Control and regulation equipment,
Handling equipment, Injection moulding machines

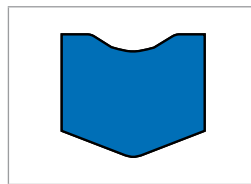
Standard product range Static Seals

Merkel Cover Seal PU 82

Single-piece, double-acting compact seal made from TPU for static sealing, inner sealing.

Product advantages:

- Interchangeable for O-ring housings and O-ring with back-up ring
- High reliability
- Simple and secure installation
- Simplified stockkeeping
- Gas-tightness



T -30 ... +110 °C

p 60 MP

Available materials

95 AU V142/94 AU 925

Application

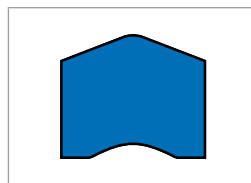
Construction machinery, Cranes, Forestry equipment, Industrial vehicles, Injection moulding machines, Presses, Wind power plants

Merkel Cover Seal PU 83

Single-piece, double-acting Merkel compact seal made from low temperature polyurethane for static sealing, outer sealing.

Product advantages:

- Interchangeable for O-ring housings and O-ring with back-up ring
- High reliability
- Simple and secure installation
- Simplified stockkeeping
- Gas-proof height



T -30 ... +110 °C

p 60 MPa

Available materials

95 AU V142/94 AU 925

Application

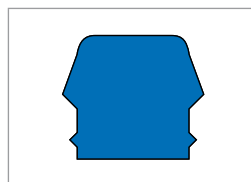
Construction machinery, Cranes, Forestry equipment, Industrial vehicles, Injection moulding machines, Presses, Wind power plants

Merkel Stirromatic SRC

Static Merkel seal made of a profiled ring with two cutting edge-shaped sealing edges on the front faces.

Product advantages:

- Good stress distribution due to the position of the sealing edge in the groove
- Secure seating in the housing for extremely high, pulsating pressure peaks
- Made of extrusion-resistant polyurethane material



T -30 ... +110 °C

p 80 MPa

Available materials

95 AU V142

Application

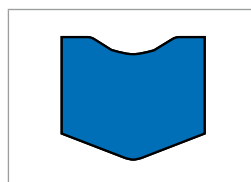
Hydraulic control and regulation equipment, Hydraulic hammers

Merkel Pinmatic

One-piece compact seal made from polyurethane for sealing of joint pins.

Product advantages:

- High functional reliability
- Minimal wear
- Longer service intervals
- Resistant to pressure peaks



T -30 ... +100 °C

v 0,2 m/s

p 2 MPa

Available materials

95 AU V142

Application

Kniehebel, Lagerund Gelenkbolzen, Spritzgießmaschinen

Standard product range Seals for Rotating and Swivelling Movement

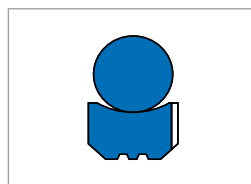
Merkel Rotomatic M 15

Two-piece Merkel seal set for sealing piston rods, consisting of one PTFE profile ring and an O-ring as a pre-load component.

Product advantages:

Double-acting rod seal for pivoting motions in hydraulic systems, preferably for usage in hydraulic joints and rotary joints.

- Short
- Highly resistant to hydraulic fluids
- Low friction, free of stick-slip



T -30 ... +150 °C

v 0,5 m/s

p 40 MPa

Available materials

PTFE GM201/FKM, PTFE GM201/NBR

Application

Excavators, Grippers, Rotary joints

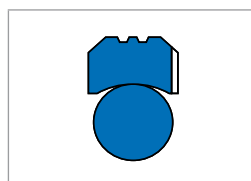
Merkel Rotomatic M 16

Two-piece Merkel seal set for sealing pistons, consisting of one PTFE profile ring and an O-ring as a pre-load component.

Product advantages:

Double-acting piston seal for pivoting motions in hydraulic systems; for standardised housing according to ISO 7425/1; preferably for usage in hydraulic joints and rotary joints.

- Short
- Highly resistant to hydraulic fluids
- Low friction, free of stick-slip



T -30 ... +150 °C

v 0,5 m/s

p 40 MPa

Available materials

PTFE GM201/FKM, PTFE GM201/NBR

Application

Excavators, Grippers, Rotary joints

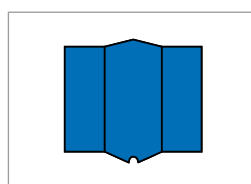
Merkel Rotomatic M 17

Single-piece Merkel sealing ring comprising an elastomer part firmly set by fabric blocks on both sides which is provided with an oil groove at the contact area.

Product advantages:

Double-acting rod seal for pivoting motions in hydraulic systems, preferably for usage in hydraulic joints and rotary joints.

- Wear-resistant
- Secure static sealing



T -30 ... +80 °C

v 0,1 m/s

p 20 MPa

Available materials

80 NBR B246/BI-NBR B3 B248

Application

Excavators, Grippers, Rotary joints

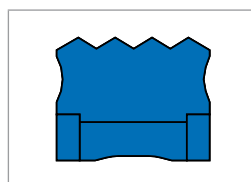
Merkel Rotomatic M 19

Three-part Merkel seal set, consisting of an elastomer part with fabric reinforcement on the contact area which is formed so that two sealing edges form an oil groove, as well as two activated back-up rings.

Product advantages:

Double-acting rod seal for pivoting motions in hydraulic systems, preferably for usage in hydraulic joints and rotary joints.

- Extrusion-secured through activated back-up ring
- Wear-resistant



T -30 ... +80 °C

v 0,2 m/s

p 40 MPa

Available materials

80 NBR B246/BI-NBR B4 B285/
POM PO202

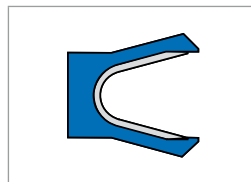
Application

Excavators, Grippers, Rotary joints

Special product range

Merkel Forseal FOI, FOA

Single acting, U-ring type PTFE seal with metal tension spring.



T -200 ... +260 °C

v 15 m/s

p 30 MPa

Available materials

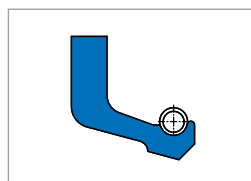
PTFE F56110

Application

Accumulators, Valves, Foodstuffs and chemicals industry, Pneumatic cylinders, Standard cylinders

Merkel Hat Seal H with/without Spring

Lip seal, with/without spring-loading. Clamping flange for fixing in the housing.



T -30 ... +100 °C

v 0,5 m/s

p 1,0 MPa

Available materials

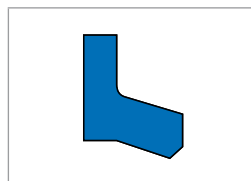
88 NBR 101

Application

Standard cylinders

Merkel Cup Packing T with/without Spring

Lip seal, with/without spring-loading. Clamping flange for axial fixing in the housing.



T -30 ... +100 °C

v 0,5 m/s

p 1,0 MPa

Available materials

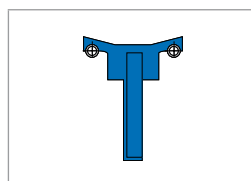
88 NBR 101

Application

Standard cylinders

Merkel Complete Piston TDUOH

Merkel Complete Piston TDUOH with steel base plate and vulcanised, spring-loaded sealing lips.



T -30 ... +100 °C

v 0,5 m/s

p 0,5 ... 6 MPa

Available materials

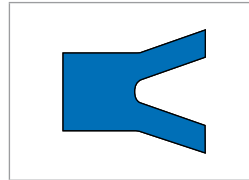
90 NBR 109

Application

Cranes, Standard cylinders

Merkel U-Ring N 1

Merkel U-ring with symmetrical profile for rods/pistons.



T -30 ... +110 °C

v 0,5 m/s

p 10 MPa

Available materials

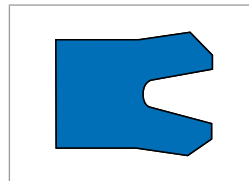
90 NBR 109

Application

Agricultural machinery, Cranes, Injection moulding machines, Loading platforms, Special cylinders, Standard cylinders

Merkel U-Ring N 100

Merkel U-ring with symmetrical profile and set back sealing edges for rods/ pistons.



T -30 ... +110 °C

v 0,5 m/s

p 10 MPa

Available materials

90 NBR 109

Application

Agricultural machinery, Forestry equipment, Injection moulding machines, Loading platforms, Special cylinders, Standard cylinders

Merkel Piston Rings

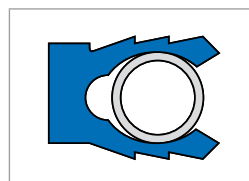
Low-friction wear-resistant PTFE rings with square cross sections. In part with notches for pressure activation of the contact element (e.g. O-ring). Application areas include hydraulic servo steering systems. Rings with various slit geometries are primarily used in automatic transmissions as alternatives to metal piston rings. Materials: special compounds with special fillers for high tribological loads.

Merkel U-Rings made of PTFE

- One-sided with pressure applied to seal
- Metal spring is used as pre-load component for the sealing lips
- System pressure overrides the pre-load during operation.

Product advantages:

- Small installation space
- Suitable for high pressures and vacuum
- Wide temperature ranges
- Ageing-resistant
- Permanently elastic through metal spring



T -200 ... +260 °C

v 2,5/10 m/s

p 45/120 MPa

Available materials

PTFE/Aramide, PTFE/Carbon, PTFE/Carbon fibre, PTFE/Ekonol, PTFE/Glass/MoS₂, UH MW PE

Application

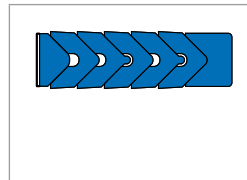
Foodstuffs and chemicals industry

Chevron Seal Set made of PTFE

- Proven sealing systems for piston rods, plungers, spindles and slowly rotating shafts
- Sets consisting of pressure ring, chevron seals, back-up ring
- The number of chevron seals in a sealing set depends on the pressure and temperature in the operating range.

Product advantages:

- Universal chemical resistance
- High temperature resistance
- Very high pressure resistance



T -200 ... +260 °C

v 0,5/0,8/1,2 m/s

P 30/70 MPa

Available materials

PTFE impregnated plastic fabric, PTFE/PTFE compound

Application

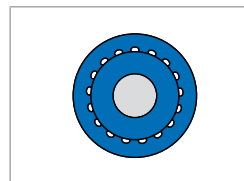
Foodstuffs and chemicals industry, Iron and steel technology

Merkel Vocomatic

Accumulator component for compensation of drag oil within rod sealing systems.

Product advantages:

- Easy to integrate into existing systems
- For long-stroke cylinders with strokes of 1000 to 6000 mm and higher, without separate oil recirculation
- Secondary seal is not deformed by drag oil and works in the optimum pressure range
- High operating reliability



T -30 ... +100 °C

Available materials

70 VQM 080 /PO 202

Application

Long-stroke cylinders

Merkel Fitting tool for rod seals

Indispensable hand tool for easy snap-in fitting of U-rings and compact seals. Various finger sizes and variable finger spacing depending on seal diameter and profile cross section enable damage free seal fitting between 30 and 110 mm in diameter.

Merkel Bonding Set RK 15

Set for bonding Simmerrings without metal inserts to allow for safe and easy fitting in open installations.

Pneumatics

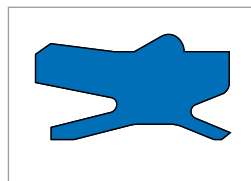
Standard product range Rod Seals

Merkel Combination Seal AU NIPSL

Combination wiper seal without metal reinforcement with special pneumatic sealing edge.

Product advantages:

- The component needs no additional element (circlip) for axial fixing within the housing
- Long service life
- Robust design



T -30 ... +90 °C

v ≤1,0 m/s

p ≤1,2 MPa

Available materials

94 AU 925

Application

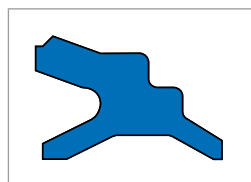
Rod seal e.g. for ISO cylinders

Merkel Combination Seal NIPSL 200

Combination wiper seal without metal reinforcement with special pneumatic sealing edge.

Product advantages:

- Combination seal with minimal space requirements, which seals inwards and wipes outwards
- The special pneumatic sealing edge gives very good tightness with low friction and maintains an effective lubricating film



T -20 ... +100 °C

v ≤1,0 m/s

p ≤1,0 MPa

Available materials

80 NBR 4005

Application

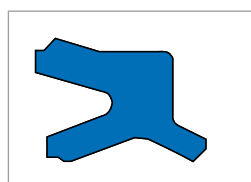
Standard cylinders (small)

Merkel Combination Seal NIPSL 210

Compact combination wiper seal without metal reinforcement with special pneumatic sealing edge.

Product advantages:

- Combination seal with minimal space requirements, which seals inwards and wipes outwards
- The special pneumatic sealing edge gives very good tightness with low friction and maintains an effective lubricating film.
- Suitable for high-temperature applications



T -5 ... +150 °C

v ≤1,0 m/s

p ≤1,0 MPa

Available materials

75 FKM 181327

Application

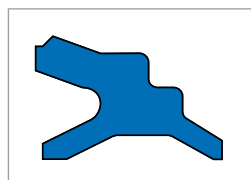
Compact cylinders, Standard cylinders (small)

Merkel Combination Seal NIPSL 300

Combination wiper seal without metal reinforcement with special pneumatic sealing edge.

Product advantages:

- Combination seal with minimal space requirements, which seals inwards and wipes outwards
- The special pneumatic sealing edge gives very good tightness with low friction and maintains an effective lubricating film.
- Material with high wear resistance



T -30 ... +90 °C

v ≤1,0 m/s

p ≤1,0 MPa

Available materials

85 AU 20991

Application

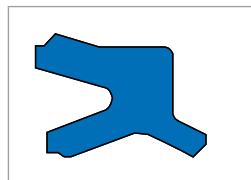
Standard cylinders (small)

Merkel Combination Seal NIPSL 310

Compact combination wiper seal without metal reinforcement with special pneumatic sealing edge.

Product advantages:

- Combination seal with minimal space requirements, which seals inwards and wipes outwards
- The special pneumatic sealing edge gives very good tightness with low friction and maintains an effective lubricating film.
- Material with high wear resistance



T -30 ... +80 °C

v ≤1,0 m/s

p ≤1,0 MPa

Available materials

85 AU 20991

Application

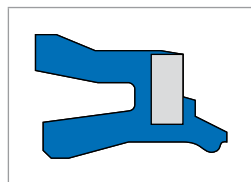
Compact cylinders, Standard cylinders (small)

Merkel Combination Seal NIPSL

Combination wiper seal with metal reinforcement and special pneumatic sealing edge.

Product advantages:

- Combination seal with minimal space requirements, which seals inwards and wipes outwards.
- The component can be replaced from the outside (without dismantling the equipment)
- Broad supply range



T -20 ... +100 °C

v ≤1,0 m/s

p ≤1,2 MPa

Available materials

72 NBR 708

Application

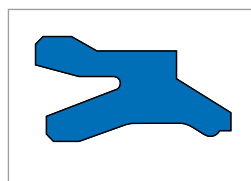
Rod seal for pneumatic cylinders

Merkel Combination Seal NIPSL SF

Combination wiper seal without metal reinforcement with special pneumatic sealing edge.

Product advantages:

- Combination seal with minimal space requirements, which seals inwards and wipes outwards
- The special pneumatic sealing edge gives very good tightness with low friction and maintains an effective lubricating film.
- Optimal material for high loads



T -20 ... +100 °C

v ≤1,0 m/s

p ≤1,0 MPa

Available materials

90 NBR 108

Application

Standard cylinders (small)

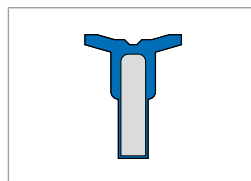
Standard product range Piston Seals

Merkel Complete Piston TDUOP

Merkel complete piston with steel base plate and vulcanised sealing lips with special pneumatic sealing edges.

Product advantages:

- Ready to fit complete piston to which pressure can be applied on both sides with integrated guide
- Easily fastened to the piston rod without additional sealing components
- Long service life
- Constant good sealing behaviour over a wide pressure range (to 1,2 MPa)
- Simple provisioning



T -20 ... +100 °C

v ≤1,0 m/s

p ≤1,2 MPa

Available materials

72 NBR 708

Application

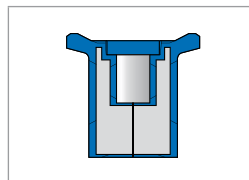
Pneumatic cylinder without request

Merkel Complete Piston TDUOP M

The compact, short, Merkel Complete Piston TDUOP M consists of an aluminium body, a guide strip, a magnet and a sealing element with a special sealing edge on the sealing lip.

Product advantages:

- Broad range of uses, only one complete piston for round cylinders and ISO cylinders
- Long service life
- Low start friction due to optimised sealing lip geometry
- Constant good sealing behaviour over a wide pressure range (to 1,2 MPa)
- Running properties without tendency to tilt due to a guide strip optimised for the application
- Aluminium body brings weight saving and permits high energy absorption
- Easily fastened to the piston rod
- Integrated static seal
- Supplied suitable for storage and fitting in deep-drawn inserts
- Simple provisioning
- Integrated magnet for a position check using a sensor



T -20 ... +100 °C

v ≤1,0 m/s

p ≤1,2 MPa

Available materials

72 NBR 708

Application

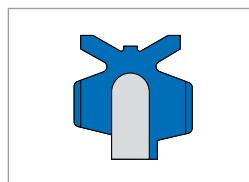
Pneumatic cylinder with request

Merkel Complete Piston NADUOP

Short Merkel complete piston with steel base plate, vulcanised buffers and sealing lips with special pneumatic sealing edges. Ready to install Merkel complete piston with integrated guide that can be pressurised on both sides.

Product advantages:

- Vulcanised buffers for end-position damping of piston in the cylinder
- Radial venting passages for reliable pressure application at the end of the stroke



T -20 ... +100 °C

v ≤1,0 m/s

p ≤1,0 MPa

Available materials

72 NBR 708

Application

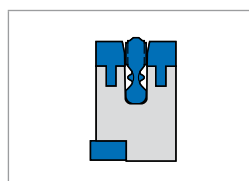
Pneumatic cylinders

Merkel Complete Piston Pneuko G

Merkel complete piston with light alloy/polyamide body, snap-action seal and integrated guide.

Product advantages:

- Ready to fit Merkel complete piston with very low height to which pressure can be applied on both sides
- Easily fastened to the piston rod
- Integrated static seal on the inside diameter



T -20 ... +100 °C

v ≤1,0 m/s

p ≤1,0 MPa

Available materials

72 NBR 708

Application

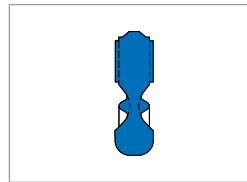
Pneumatic cylinder without request, frequent special cylinder

Merkel Compact Seal KDN

Merkel Compact Seal can be pressurised on both sides with grooves on the front side for pressure activation.

Product advantages:

- The compact design permits short piston designs
- The rounded sealing profile and the flexible centre part give good tightness with low friction and maintain an effective lubricating film



T -20 ... +100 °C

v ≤1,0 m/s

p ≤1,0 MPa

Available materials

72 NBR 708

Application

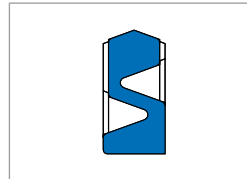
Short-stroke cylinders

Merkel Compact Seal Airzet PK

Merkel Compact Seal Airzet PK can be pressurised on both sides with grooves on the front side for pressure activation.

Product advantages:

- The compact design permits short piston designs
- The rounded sealing profile and the flexible centre part give good tightness with low friction and maintain an effective lubricating film
- Widely proven design
- Large supply range available
- Very good tribological properties (wear, friction and long service life)



T -20 ... +150 °C

v ≤1,2 m/s

p ≤1,2 MPa

Available materials

75 FKM 230553, 80 NBR 186349

Application

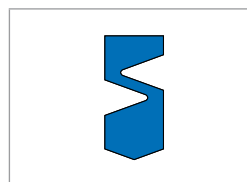
Short-stroke cylinders, Valves and cylinders, especially short-stroke cylinders for high-temperature applications (only FKM)

Merkel Compact Seal Airzet PR

Merkel Compact Seal can be pressurised on both sides with grooves on the front side for pressure activation.

Product advantages:

- The compact design permits short cylinder cover designs
- The rounded sealing profile and the flexible centre part give good tightness with low friction and maintain an effective lubricating film
- Widely proven design
- Large supply range available.
- Very good tribological properties (wear, friction and long service life)



T -20 ... +150 °C

v ≤1,0 m/s

p ≤1,2 MPa

Available materials

75 FKM 230553, 80 NBR 186349

Application

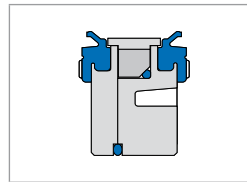
Short cylinders, Short solution for cylinders (short stroke) and valves for high-temperature applications (only FKM)

Merkel Complete Piston Pneuko M 210

The compact, short, Merkel complete pneumatic piston Pneuko M consists of an aluminium body, guide strip, a magnet and the sealing body with a special sealing edge on the sealing lip and integrated buffers made of very wearresistant fluoro elastomer FKM for special applications.

Product advantages:

- Long service life
- Low start friction due to optimised sealing lip geometry and additional venting passages
- Constant good sealing behaviour over a wide pressure range (to 1,2 MPa)
- Running properties without tendency to tilt due to a guide strip optimised for the application
- Aluminium body brings weight saving and permits high energy absorption
- Easily fastened to the piston rod
- Integrated static seal
- Supplied suitable for storage and fitting in deep-drawn inserts
- Simple provisioning
- Integrated magnet for a position check using a sensor



T -20 ... +150 °C

v ≤1,0 m/s

p ≤1,2 MPa

Available materials

75 FKM 181327

Application

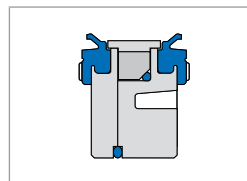
Broad range of uses, only one piston for short stroke cylinders, compact cylinders, round cylinders and ISO cylinders

Merkel Complete Piston Pneuko M 310

The compact, short, Merkel complete pneumatic piston Pneuko M consists of an aluminium body, guide strip, a magnet and the sealing body with a special sealing edge on the sealing lip and integrated buffers made of very wear resistant polyurethane.

Product advantages:

- Long service life
- Low start friction due to optimised sealing lip geometry and additional venting passages
- Constant good sealing behaviour over a wide pressure range (to 1,2 MPa)
- Running properties without tendency to tilt due to a guide strip optimised for the application
- Aluminium body brings weight saving and permits high energy absorption
- Easily fastened to the piston rod
- Integrated static seal
- Supplied suitable for storage and fitting in deep-drawn inserts
- Simple provisioning
- Integrated magnet for a position check using a sensor



T -25 ... +80 °C

v ≤1,0 m/s

p ≤1,2 MPa

Available materials

80 AU 21000

Application

Broad range of uses, only one piston for short stroke cylinders, compact cylinders, round cylinders and ISO cylinders

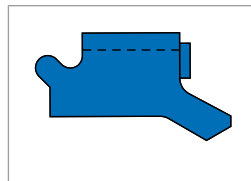
Standard product range Damper Seals

Merkel Damper Seal DIP

Merkel Damper Seal DIP with spacer lug and flow passages.

Product advantages:

- Integrated non-return valve function through axial seal, spacer lugs and flow passages
- Constant, reliable damping function due to automatic centring



T -30 ... +100 °C

v ≤1,0 m/s

p ≤1,6 MPa

Available materials

90 NBR 109

Application

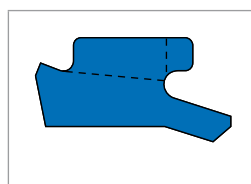
Damper seal e.g. for ISO cylinders

Merkel Damper Seal AU DIP

Merkel Damper Seal AU DIP with spacer lug and flow passages. Integrated non-return valve function due to axial seal, spacer lugs and flow passages.

Product advantages:

- Constant, reliable damping function due to automatic centring



T -30 ... +90 °C

v ≤1,0 m/s

p ≤2,5 MPa

Available materials

85 AU 20991, 90 AU 924, 94 AU 925

Application

Damper seal e.g. for ISO cylinders

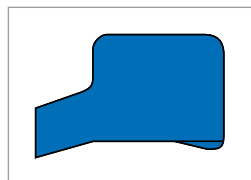
Standard product range Wipers

Merkel Wiper AUASOB

Dirt wiper without metal reinforcement, protruding wiper lip and base face support.

Product advantages:

- Single-acting wiper for the protection of cylinders against ingress of dirt, use in standardised housings according to ISO 6195 Type A.



T -30 ... +110 °C

v 2,0 m/s

Available materials

94 AU 925

Application

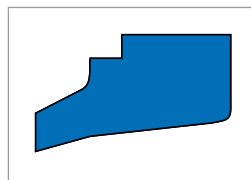
Standard cylinders

Merkel Wiper ASOB

Dirt wiper with protruding wiper lip without metal reinforcement.

Product advantages:

- Single-acting wiper for the protection of cylinders against ingress of dirt.



T -30 ... +100 °C

v 2,0 m/s

Available materials

88 NBR 101

Application

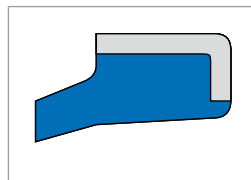
Standard cylinders

Merkel Wiper AS

Dirt wiper with metal housing; wiper lip protruding.

Product advantages:

- Single-acting wiper for the protection of cylinders against ingress of dirt, use in standardised housings, amongst others, according to ISO 6195 Type B.



T -30 ... +100 °C

v 2,0 m/s

Available materials 88 NBR

Application Standard cylinders

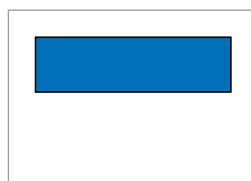
Standard product range Guides

Merkel Guide Ring EKF

Slit, non-metallic Merkel Guide Ring EKF.

Product advantages:

- Non-metallic guide element for pistons.



T -30 ... +100 °C

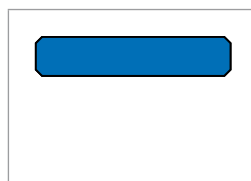
v 1,0 m/s

Available materials PA 4201

Application Injection moulding machines, Mobile hydraulics, Standard cylinders

Merkel Guide Strip FB

Starting material for manufacture of piston guides (FBA) and rod guides (FBI) for light loads. Made from bronze-filled PTFE for steel cylinders. Made from carbon-filled PTFE for lightweight and non-ferrous metal cylinders. Available ready to fit cut to size or by the metre.



T -40 ... +200 °C

v 5,0 m/s

Available materials PTFE 40/177024

Special product range

Merkel U-rings for special-purpose cylinders

U-rings with oval design, e.g., for flat pneumatic cylinders. U-rings with square profiles for standard pneumatic cylinders in with square piston rods.

Available materials Polyurethane

Merkel PU Profiles for rodless pneumatic cylinders

Precision profiles made from high-grade polyurethane with integrated reinforcement wire. For band and slotted cylinders in pneumatic systems. PU profiles are wear-inhibiting and noise-reducing.

Available materials Polyurethane

Application Sealing belt to prevent air loss from inside, Power transmission from drive piston to carriage, Tensioning and cover belt

Packings

Standard product range

Merkel Ramilon 4586

Merkel Ramilon is braided from ramie yarn, an extremely tear-resistant and water-resistant natural fibre yarn. The packing contains a high degree of PTFE due to a multi-impregnation process. This guarantees a high cross sectional density and low frictional values. Merkel Ramilon is also used in plunger pumps for high pressure water applications.

The stuffing box packing is FDA-certified.

Product advantages:

- Long service life
- Does not swell or rot
- Excellent pressure resistance
- pH-value 5 ... 11

Merkel Arostat 6204

Merkel Arostat is manufactured from a wear-resistant and flexible aramide yarn. The packing has a multi-stage PTFE impregnation.

This results in a very tight and elastic structure which makes Merkel Arostat ideal for static covers and housing seals.

Product advantages:

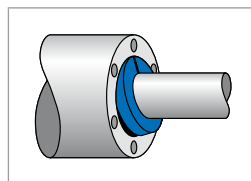
- Resistance even against veryabrasive media
- High cross sectional densityand low leakage
- Low maintenance
- pH-value 0 ... 13

Merkel Arolan II 6215

Merkel Arolan II consists of highly wear-resistant aramide yarn as well as a special PTFE impregnation and a universally stable running-in lubricant. The high wear resistance paired with a wide thermal and chemical operating range makes Merkel Arolan II a universal packing for many branches of industry.

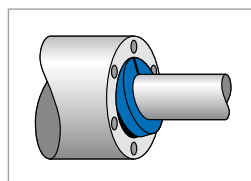
Product advantages:

- For sealing of abrasive media
- Very long service life
- Ideal for application with shaft deflection
- pH-value 1 ... 13



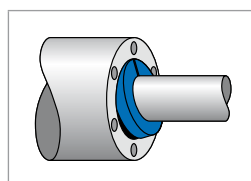
T	-40 ... +120 °C
v	2/12,5 m/s
p	4/100 MPa

Available materials	Ramie yarn
Application	Rotary pumps, Refiners, Mills, Plunger pumps, Stern tubes



T	-50 ... +250 °C
p	20 MPa

Available materials	Aramide yarn
Application	Valves



T	-50 ... +280 °C
v	26 m/s
p	2,5/10 MPa

Available materials	Aramide yarn
Application	Valves, Rotary pumps

Merkel Arochem S 6216

Merkel Arochem S combines the advantages of two highly developed yarn materials for the sealing of high-speed shafts. The special running properties of thermally-resistant PTFE-graphite compound yarns guarantees shaft protection and allows for brief dry running without damage. The wear-resistant aramide yarn edges prevent extrusion and protects against abrasive media. Merkel Arochem S contains a universally stable silicone-free running-in lubricant. This ensures sufficient lubrication during the critical running-in phase.

Product advantages:

- Smooth sliding, low friction
- Prevents extrusion, extremely wear resistant
- Ideally suited for high pressures, no extruding into the sealing gap
- pH-value 1 ... 13

Merkel Unistat 6303

Merkel Unistat 6303 is braided from a graphite-filled PTFE yarn. The high graphite content ensures good heat dissipation and the PTFE material ensures excellent friction behaviour. The dense and pressure-resistant structure makes the packing especially suitable for plunger pump applications. Due to its chemical resistance, Merkel Unistat 6303 can be used universally in chemical industry. The stuffing box packing is FDA-certified.

Product advantages:

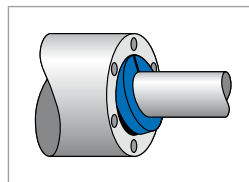
- High chemical and pressure resistance
- Excellent heat dissipation
- Low leakage
- pH-value 0 ... 14

Merkel Unichem 6313

Merkel Unichem is braided from pure PTFE yarns and impregnated with a running-in lubricant. The packing has a very dense structure and is yet soft and flexible. Sealing can be achieved with a minimum amount of gland pressure. Merkel Unichem features very good friction behaviour. Merkel Unichem is available as a flat strip for static sealing. The stuffing box packing is FDA-certified.

Product advantages:

- Excellent sealing behaviour with minimum gland pressures
- Very low leak rate
- Suitable for all chemical applications
- pH-value 0 ... 14



T -50 ... +280 °C

v 2/25 m/s

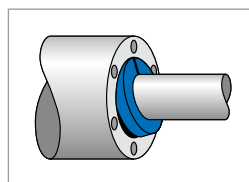
P 2,5/25 MPa

Available materials

Aramide yarn, PTFE-graphite compound yarns

Application

Rotary pumps, Plunger pumps



T -200 ... +280 °C

v 2,0 m/s

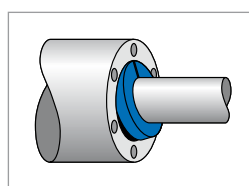
P 25/80 MPa

Available materials

Graphite-filled PTFE yarn

Application

Valves, Plunger pumps



T -100 ... +250 °C

v 8,0 m/s

P 1,5 MPa

Available materials

Pure PTFE yarns

Application

Rotary pumps

Merkel Unival 6323

Merkel Unival 6323 consists of graphite-filled, oiled PTFE yarn. Due to a special braid structure the advantages that this material offers (low thermal expansion and excellent heat conduction) are optimally exploited. Merkel Unival 6323 is a very flexible packing and seals reliably with a minimum of gland pressure, even against thin liquid media that have a tendency to creep. It can also withstand dry friction up to a certain limit. The materials used are approved for use in food processing industry (MPA). The stuffing box packing is FDA-certified.

Product advantages:

- Ability to run at high speeds
- Longer service life
- Low leakage with a minimum of gland pressure
- pH-value 0 ... 14

Merkel Alchem 6375

Merkel Alchem is made from pure PTFE yarns and is additionally impregnated with PTFE. This guarantees excellent chemical resistance. The high cross sectional density and the tight braid structure ensure a very good sealing behaviour. The packing has a good form stability and a low shrinkage behaviour. The stuffing box packing is FDA-certified.

Product advantages:

- Very low leakage rates
- Very minimal shrinkage behaviour
- No risk of discolouration
- pH-value 0 ... 14

Merkel Grafflex® 6501

Merkel Grafflex meets the purity requirements for seals in nuclear power station valves (content of soluble chlorides <20 ppm). On to temperature cycle, there is no cold flow, shrinkage or ageing of the material.

Merkel Grafflex rings

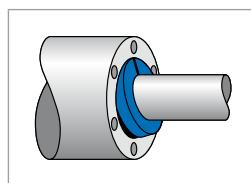
Compression moulded Merkel Grafflex rings are supplied with a density between 1,4 and 1,85 g/cm³.

Merkel Grafflex Strip

Merkel Grafflex Strip with crosshatch surface pattern is used to make rings in the event of repairs. The Grafflex material is approved for use with gaseous oxygen, drinking water and for the food processing industry. Like Grafflex 6509, it is also available with corrosion inhibitor. For reworked valves with large gap dimensions, the use of Merkel Grafflex with Merkel Carbosteam 6550 endrings is recommended.

Product advantages:

- Very high temperature and chemical resistance
- Excellent sealing effect and constant elasticity
- Fast delivery times without additional tool costs
- pH-value 0 ... 14



T -100 ... +280 °C

v 20 m/s

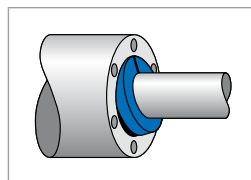
P 2,5/25 MPa

Available materials

Graphite-filled/oiled PTFE yarn

Application

Valves, Rotary pumps



T -200 ... +280 °C

v 2,0 m/s

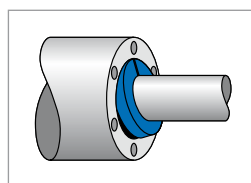
P 25/50 MPa

Available materials

Pure PTFE yarns

Application

Valves, Plunger pumps



T -200 ... +2500 °C

P 100 MPa

Available materials

Grafflex

Application

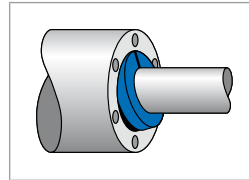
Valves

Merkel Grafflex® Deckeldichtungen

Merkel Grafflex cover seals are supplied as pre-pressed rings and are proven in self-sealing covers, e.g. in large valves and in high-pressure water pre-heaters.

Product advantages:

- Merkel Grafflex stays elastic even with continually varying temperature and pressure up to 200 N/mm² surface pressure. It correctly bridges gap widths on large, self-sealing covers up to 0,3 mm.
- Larger gaps are controlled by Merkel Grafflex using springs made of material 1.4571 integrated into the corners of the packing rings by pressing
- pH-value 0 ... 14



T -200 ... +2500 °C

P 100 MPa

Available materials

Grafflex

Application

Valves

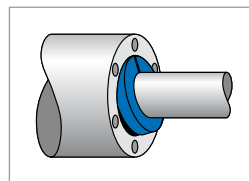
Merkel Carbosteam® 6550

Merkel Carbosteam is braided from flexible carbon yarns with a special graphite impregnation. Due to its excellent temperature stability, the packing is especially used in high-temperature steam applications.

Due to its high pressure and extrusion resistance, Merkel Carbosteam is ideal as end ring in conjunction with Grafflex.

Product advantages:

- Very high temperature resistance
- Low friction, long service life
- Suitable as extrusion protection and wiper in combination with Merkel Grafflex and Merkel G-Spezial
- pH-value 0 ... 14



T -30 ... +550 °C

P 30 MPa

Available materials

Flexible carbon yarns

Application

Valves

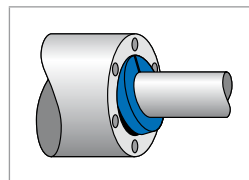
Merkel G-Spezial S 6565

Merkel G-Spezial S is braided from pure, expanded graphite yarns and can be used in pumps and valves. The packing combines all the advantages of the expanded graphite such as high temperature stability and high cross-sectional density. The rings made from Merkel G-Spezial S can simply be cut from the roll for application cases where fast repair is required.

Can be used in combination with end rings from Merkel Carbosteam 6550 for high-pressure valve applications.

Product advantages:

- Very high temperature and chemical resistance
- Excellent sealing effect and constant elasticity
- Fast repair for a whole variety of valve dimensions
- pH-value 0 ... 14



T -200 ... +550 °C

v 25 m/s

P 25 MPa

Available materials

Graphite yarns

Application

Valves, Rotary pumps

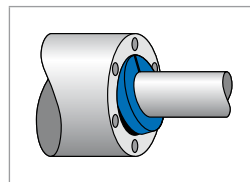
Merkel G-Spezial 6560

Merkel G-Spezial is made of temperature resistant, flexible braided graphite yarns each of which is reinforced with a very thin Inconel wire. This highly pressure-resistant braided packing has the same excellent sealing effect as pure graphite rings wound from strip material. Merkel G-Spezial is especially suitable for fast repair service applications. For gaps > 0,2 mm, the use of Merkel Carbsteam 6550 is recommended as extrusion protection.

Also available as Merkel G-Spezial I 6569 with corrosion inhibitor.

Product advantages:

- High temperature and chemical resistance
- Very low leakage
- High pressure resistance
- Fast repair for a whole variety of valve dimensions
- pH-value 1 ... 14



T -200 ... +550 °C

p 45 MPa

Available materials

Graphite yarns

Application

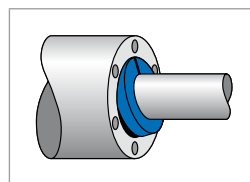
Valves

Merkel Uniflex 6588

Merkel Uniflex is manufactured from a special flexible yarn with a high carbon content, and a PTFE-graphite impregnation as well as a running-in lubricant. The packing is very flexible and extrusion-resistant. The impregnation maintains an excellent bond to the braid over the complete life of the packing. The good temperature and volume stability of the packing provides superior sealing behaviour even with minimal gland pressures. Thus, Merkel Uniflex can sometimes also be used for dry running.

Product advantages:

- Suitable for dry running
- Superior sealing performance
- Flexible and wear-resistant
- pH-value 1 ... 13



T -50 ... +280 °C

v 25 m/s

p 2,5 MPa

Available materials

Special flexible yarn with a high carbon content

Application

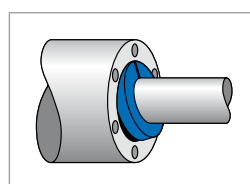
Rotary pumps

Merkel Kombilon 6742

Merkel Kombilon consists of an elastic combination braid made from carbon and PTFE yarns. The packing is impregnated with a special PTFE compound and running-in lubricant. The specific composition of Merkel Kombilon ensures very low frictional forces and a high elasticity. This makes the packing especially suitable for mixers and agitators. The packing maintains its elasticity even after prolonged operation and under high contact pressure. The specially processed carbon yarn is very flexible and protects the shaft particularly well. The stuffing box packing is FDA-certified.

Product advantages:

- Low leakage rates even with slight shaft deflection
- Long service life
- Excellent performance even at high temperatures
- pH-value 0 ... 14



T -100 ... +280 °C

v 20 m/s

p 2,5/16 MPa

Available materials

Elastic combination braid made from carbon and PTFE yarns

Application

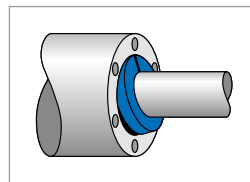
Valves, Rotary pumps, Agitators

Merkel Univerdit® 7000

The packing material is approved for use in the food processing industry. Compact extruded packing made of PTFE graphite compound. Merkel Univerdit has extremely good resistance to gas permeation and has the ability to embed abrasive particles. Univerdit remains self-lubricating even during extended periods of operation and therefore reduces friction on shafts and spindles. Generally, Univerdit must always be installed with end rings.

Product advantages:

- Resistance to gas permeation
- Easy installation and long service life
- Ideal for sealing abrasive media
- Can run "dry" in some applications
- pH-value 0 ... 14



T -30 ... +250 °C

v 6,0 m/s

P 2,5/16 MPa

Available materials

PTFE-graphite compound yarns

Application

Valves, Rotary pumps

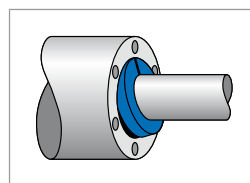
Merkel Carbosteam® S 6555

Merkel Carbosteam S consists of a flexible graphite core with a wear-resistant carbon yarn jacket. Besides the good elasticity and large cross sectional density, this packing has a continuous volume stability. The jacket is sealed and heat-resistant. The graphite-filled impregnation facilitates fitting and the sliding behaviour on the spindle is optimised.

The content of soluble chloride for this packing is below 50 ppm. Merkel Carbosteam S is used in particular in power generation and is used in all industries where high temperatures and aggressive media are used.

Product advantages:

- High temperature resistant and good heat dissipation
- Low leakage
- Can be used as end ring for extrusion protection and as wiper with Merkel Grafiflex or Merkel G-Spezial.
- pH-value 0 ... 14



T -30 ... +400 °C

P 30 MPa

Application

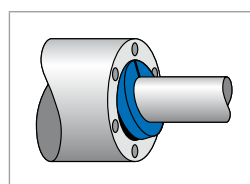
Valves

Merkel Carboflex 6587

Merkel Carboflex behaves with good volume stability and almost universal chemical resistance. The low elongation coefficient, a small friction value and the ability to overcome the critical running-in phase prevents sudden, uncontrolled production of heat at high sliding speeds. The impregnation selected to suit the carbon fibres as well as the specially selected lubricant benefits the running-in process.

Product advantages:

- Good chemical resistance
- Good heat dissipation
- Low friction.
- pH-value 0 ... 14



T -60 ... +300 °C

v 20 m/s

P 2,5 MPa

Application

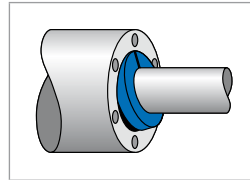
Pumps

Merkel Thermapack 6401

Thermapack 6401 is braided from extremely temperature-resistant yarn material (silica) and impregnated with specially developed high temperature-resistant emulsion.

Product advantages:

- Excellent resistance to extremely high temperatures thanks to special high-temperature yarn material
- A very good seal effect is achieved by the special impregnation
- The fibre material is not subject to EU directives 97/69/EC, 67/548/EEC or the German TRGS 905 regulation, which guarantees easy and safe handling without any health risks
- pH-value 5 ... 9



T -50 ... +1100 °C

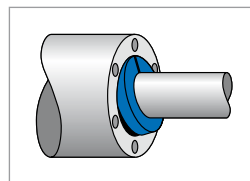
P 1 MPa

Merkel Cerampack HT 6453

Cerampack HT is woven from a specially treated high-temperature glass yarn. The yarn is reinforced with Ni/Cr wire. The yarn fibres have a low biostability and are hence classified as harmless in accordance with Directive 67/548/EWG. The packing has an additional special impregnation.

Product advantages:

- Excellent resistance to extremely high temperatures through special high-temperature glass yarn
- A very good seal is achieved through special impregnation
- Good pressure resistance through Ni/Cr wire reinforcement
- pH-value 5 ... 9



T -50 ... +850 °C

P 1 MPa

Application

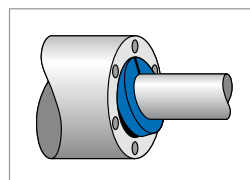
Static sealing of furnaces, burners and heat exchangers

Merkel Cerampack MT 6452

Cerampack MT is woven from a special high-temperature glass yarn and is reinforced with Inconel wire. A special impregnation provides additional high-temperature protection.

Product advantages:

- Excellent resistance to extremely high temperatures through special high-temperature glass yarn
- A very good seal is achieved through special impregnation
- Good pressure resistance through Inconel wire
- pH-value 5 ... 9



T -50 ... +750 °C

P 1 MPa

Application

Boilers, coal pulverisers, industrial furnaces, furnace doors to 750°C, thermal insulation on pipes

Merkel Unimix 7105

Merkel Unimix 7105 is a newly developed, injectable fibre compound consisting of PTFE fibres and particles as well as a high-performance lubricant.

With end rings made from Merkel Arolan 6215 or Merkel Unichem 6313, this packing is ideal for use against abrasive media and also for run-in shafts.

Due to the injectability, it is also possible to refill the packing mass during pump operation and thus avoid down-times. Compared to other compounds, Merkel Unimix 7105 is resistant over the entire pH range from 0 to 14 and due to the shorter fibre lengths, more homogenous and simple to inject. When delivered, the density of the compound is approx. 1,5 g/cm³ (1 kg ≈ 0,65 l).

Product advantages:

- Good chemical resistance
- Low leakage
- No down-times
- pH-value 0 ... 14

Merkel Unimix 7106

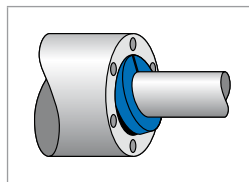
Merkel Unimix 7106 is a newly developed, injectable fibre compound consisting of PTFE fibres and particles as well as a high-performance lubricant.

With end rings made from Merkel Arolan 6215 or Merkel Unichem 6313, this packing is ideal for use against abrasive media and also for run-in shafts.

Due to the injectability, it is also possible to refill the packing mass during pump operation and thus avoid down-times. Compared to other compounds, Merkel Unimix 7106 is resistant over the entire pH range from 0 to 14 and due to the shorter fibre lengths, more homogenous and simple to inject. When delivered, the density of the compound is approx. 1,4 g/cm³ (1 kg ≈ 0,7 l).

Product advantages:

- Good chemical resistance
- Low leakage
- No down-times.
- pH-value 0 ... 14



T -100 ... +250 °C

v 10 m/s

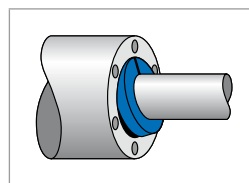
P 2,5 /7,5 MPa

Available materials

Fibre compound (PTFE fibres), chamber rings (Arolan 6215 or Unichem 6313)

Application

Media in pump and mixer applications



T -100 ... +250 °C

v 10 m/s

P 2,5 /7,5 MPa

Available materials

Fibre compound (PTFE fibres), chamber rings (Arolan 6215 or Unichem 6313)

Application

Media in pump and mixer applications

Endless packing rings

Simrit manufactures endless packing rings in a whole variety of materials and dimensions.

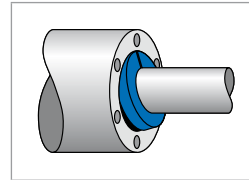
The sealing rings consist of a concentric hose braid and an optional elastomer core.

The elastomer core guarantees a constant sealing force over the entire service life. This is ideal for static cover seals with a high number of open/close cycles. The outer braid provides good wear protection and protects against attacks by chemicals. Endless packing rings can also be used for many applications with minor active movements.

Various yarn, core and impregnation combinations offer the ideal seal for a whole variety of applications.

Product advantages:

- Low leakage
- Increased elasticity and spring back
- Good chemical resistance
- pH-value 0 ... 14 (depending on material combination)



T -30 ... +550 °C

v 2 m/s

P 1,0 MPa

Available materials

Ramie, aramide, PTFE, PTFE/Graphite compounds, Carbon

Application

Tank covers, manhole covers, filters, dryers, chemical mixer housings, twist valves, rotary kilns

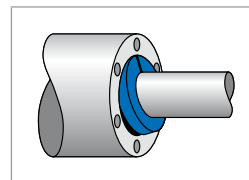
Merkel Cover Lid Seal Type 6324

The Merkel Cover Lid Seal Type 6324 consists of a concentric hose braid and an optional elastomer core.

The elastomer core guarantees a constant sealing force over the entire service life. This is ideal for static cover seals with a high number of open/close cycles. The outer braid provides good wear protection and protects against attacks by chemicals.

Product advantages:

- Low leakage
- Increased elasticity and spring back
- Good chemical resistance
- pH-value 0 ... 14 (depending on material combination)



T -30 ... +250 °C

v 2 m/s

P 1,0 MPa

Available materials

Yarn material (PTFE), Core material (EPDM, MVQ), Wear protection (PTFE)

Application

Cover and housing seals such as tank covers, manhole covers, filters, dryers, chemical mixer housings, twist valves, rotary kilns

Accessories

Packing Extractor

A clean housing is important for the sealing properties of a new packing. For this reason used seals must be carefully and completely removed from the sealing box. Packing extractors were developed for the rapid and careful removal of packings. The forged, helical-shaped tips are firmly joined to the extractor shaft. With their large pitch, they can easily be screwed into all types of braided and fabric packings. With the flexible and powerful shaft, even difficult to access packing gland boxes are easy to reach. The T-bar handle is designed for the tensile load and sits easily in the hand. Packing extractors sets are supplied in a practical case. Each set contains each size of steel extractor: 22 cm, 33 cm, 44 cm long for packing boxes from 6 mm, 10 mm and 13 mm width. For the installation of packings, metal ring segments can be screwed onto the extractors and in this way they become the ideal tool for pushing the packing rings evenly into the housing without damage.

Packing Cutter

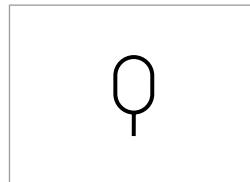
The universal packing cutter was designed for the practical cutting of packings from the roll. With the help of this cutter, packings can be cut accurately and correctly to suit the application. The measuring scale is in inches and millimetres. The scale corresponds to the shaft or spindle diameter. The packing cross-section is taken into account by adjusting the slide. The slide stop and cutting guide are designed for the optimal cut at 45°.

Hydraulic Accumulators

Standard product range

Diaphragm Accumulator

A special welding process provides a weight-optimised accumulator design. Various diaphragm materials are available for different operating fluids and application conditions. A maintenance port is fitted on the gas side in the standard version. Application limits: volume from 0.075 to 5 l.



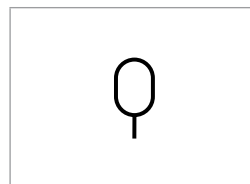
T -40 ... +120 °C

P 4 ... 50 MPa

Application Impact pressure damping, Pulsation damping, Volume accumulation

350 bar Accumulator range

The 350 bar accumulator range is available in standard designs with various oil ports and in diaphragm designs. Special customised designs can be provided on request. Application limits: volume from 0.75 to 3.5 l.

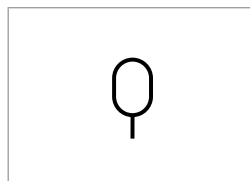


P 35 MPa

Application Vehicle cabs

Diaphragm Accumulator – screw fitting version (standard range)

Application limits: volume from 1.5 to 2.0 l.

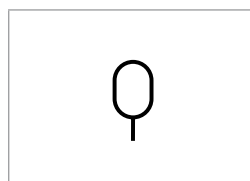


P 10 ... 33 MPa

Special product range

Piston Accumulator for mobile use

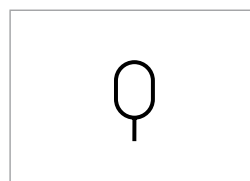
These hydraulic accumulators are user-optimised for high-pressure conditions. Application limits: volume from 16 cm³ to 5 l.



P 5... 25 MPa

Special design Hydraulic Accumulator

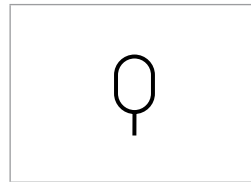
For mobile use, hermetically welded on all sides, user-optimised construction. Available in special stainless steel designs. Application limits: volume of 0.75 l.



P 10 ... 33 MPa

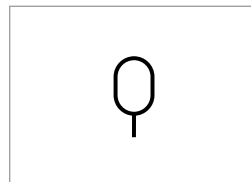
Pulsation damping for hydraulic systems

Pulsations produce noise, increase wear and lower efficiency in hydraulic systems. A pulsation damper can reduce the pressure and fluid fluctuations generated by the pulsations. Better performance, less noise and higher component service life are achieved. Conventional diaphragm accumulators and newly developed spring accumulators and broadbrand dampers are used for specific applications. The dampers have customised designs.



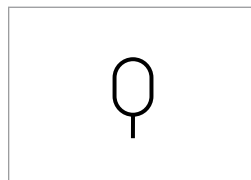
Hydraulic Accumulator with hydraulic block and integrated hydraulic valves

For mobile use, user-optimised design.



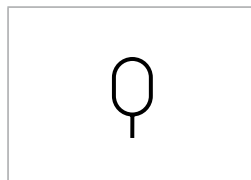
Accumulator load valve NG6

2/2-way valve with 2 pilot valves. The upper and lower switching pressures can be adjusted separately. After the upper switching point has been achieved the hydraulic pump is switched to free circulation and is only activated again when the lower switching point has been reached. In this way hydraulic systems, e.g., which only require high oil flows for short periods of time can be operated in an energy-saving manner with a small hydraulic pump and a hydraulic accumulator.



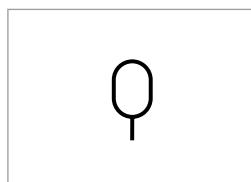
Hydropneumatic front axle suspension

Combined use of hydraulic accumulators and control block for hydropneumatic front axle suspensions in agricultural machinery. Load-dependent spring rate and load-independent speed of the level control guarantee optimum suspension function even with rapidly changing loads. Advantages: increased reliability, higher working efficiency, higher driving speed, full traction, stable vehicle and longer service life.



Hydropneumatic cabin suspension

A comfortable suspension is achieved with short ramp-up and ramp-down times through adaptation of the settings to the particular application. The cylinder-accumulator combination is designed to be load- and comfort-dependent. Through the use of the suspension system the increasingly stringent requirements for comfortable and healthy workplaces can be met, the machine life extended, the driving comfort increased and the operating reliability improved.



Application

Vehicle cabs

O-Ring

For nearly any O-ring application you will find standard and special solutions made from over 400 available materials such as acrylonitrile butadiene rubber (NBR), fluoroelastomer (FKM), ethylene propylene diene M-class rubber (EPDM), acrylate rubber (ACM), silicone rubber (VMQ) and many others.

Selection of high-performance materials for O-rings

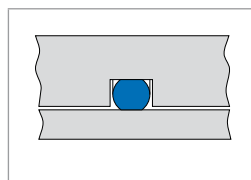
Elastomer-Type	Operating Temperature	Special Features	Fields and Ranges of Application
70 EPDM 291	-50 ... +150 °C	High temperature-resistant (in water, usable up to 180°C!) Universal spectrum of certification: KTW, WRAS, FDA-compliant, ACS, W270, 3A sanitary, KIWA, USP VI, ADI-free	Heating technology, sanitation technology, foodstuffs industry, solar thermics, drinking water, pharmacy, solar technology
75 HNBR 31127	-25 ... +140 °C	KTW, DIN EN 681/1 WA, DIN EN 682, DIN EN 549, W270, VP 614	Material for gas, (drinking) water, oiled air and mineral oils, "universal fitting" – sealing of press fittings and fittings with a single material against gas and water!
70 XIIR 232175	-60 ... +130 °C	Highly permeation-proof material	Energy technologies, SF ₆ gas-insulated high voltage switch-gears, gas insulation in general
75 Fluoroprene XP40	-15 ... +200 °C	FDA-compliant, universal media resistance, specially for CIP/SIP media and hot steam	Foodstuffs industry, chemicals industry
60 ACM 232262; 70 ACM 231911	-30 ... +175 °C	High temperature resistance, including against additive mineral oils, also available as DOTG-free variant	Motor and gear applications
80 HNBR 30938	-35 ... +140 °C	Resistant against biodegradable oils, low temperature flexible	Oil hydraulics (agriculture)
70 NBR 233536	-30 ... +125 °C	High temperature resistant, also available in low temperature flexible variant	Steering, oil-containing air, mineral oils

In the temperature range from -60°C to +200°C (special materials made of PVMQ to under -100°C and made of Simriz® up to +325°C) for practically any medium that has to be sealed, special solutions in the hardness range of 40 – 90 Shore A.

Standard product range

O-Ring

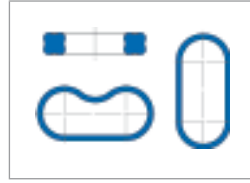
O-Rings are endless round sealing rings of circular cross section. They are mainly used to seal stationary machine components – static case – against fluid and gaseous media. In certain conditions, they can also be used as a dynamic sealing component for axial, rotating and oscillating movement.



Special product range

O-Ring with function-based special shape

Apart from the normally available standard sizes and materials, individual special shapes are developed by Simrit's Product Development department. These designs meet customer requirements and have been optimised for the various installation and application conditions. Seals on stationary machine parts to protect against liquid and gaseous media as well as O-rings as dynamic sealing components for axial, rotating and oscillating motions are possible.

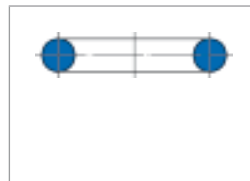


Specialised O-Rings

The Simriz® O-ring has similar resistance to aggressive media and temperatures in a wide range to that of a PTFE seal, but is elastic. It also features a service life that is many times higher than that of an O-ring made from conventional elastomers. The Simriz® O-ring can be supplied in standard sizes at short notice.

Product advantages:

- Universal chemical resistance
- Variants for application temperature ranges from -25°C to 325°C and hardness range of 70 to 85 Shore A
- FDA-compliant variants



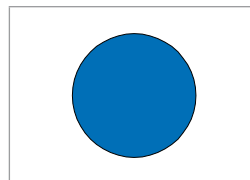
T -25 ... +325 °C

Available materials

Simriz®

Coated O-Ring

Specific optimisation of the surface condition of the O-ring by coating with powders, special greases, emulsions or paints. Base elastomer and a surface quality independent of it provide optimised characteristics profile and guarantee economical installation and reliable sealing of the O-ring. The coated O-ring from Simrit solves installation and application problems such as stick-slip. Fitting forces can also be reduced significantly.



Liquid Silicone Products

Special product range

Cord seals and enclosure seals

Cord seals and housing seals made from LSR. Advantages: low-cost manufacture and good weather and ageing stability. The Shore hardness can be selected from 10 and 80 Shore A.

Two-component composites

With the self-bonding LSR types new possibilities for purchasing lower-cost and high-quality composite products from a single source arise for development. Installation of individual components is eliminated and damage avoided. Component assembly is much easier.

Moulded parts for sanitary and food technology

For applications in which shaped parts come into direct contact with water, two essential criteria must usually be met for use of liquid silicone (LSR). Reduced lime deposits or ease of removal of deposits from the moulded seal and KTW, WRAS, BGVV and FDA approval of the materials. Hence shaped LSR parts are used not only in the sanitary industry, but also in the food industry and medical applications.

Seals for micro-electronics and electrical engineering

Due to the very good electrical insulation in combination with the excellent ability to withstand continuous mechanical loads and light stability, shaped parts are used in optical fibre connection, microswitches and medium- and high-voltage technology. Diverse applications for shaped LSR parts where switches and plugs need to be sealed radially. The possibility of producing all colours with high manufacturing accuracy and repeatability in the production process speak for their application.

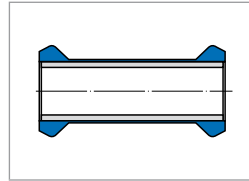
Special Sealing Products

Special product range Elastomer composite parts and precision mouldings

Plug & Seal Plug Connections

Plug & Seal Plug Connections are pipe sections with a rubberised outer surface with sealing beads and stop dampers. They are used to establish a tight connection between two housings or units - and for secure transport of media such as oils, water or air.

As well as standard design Plug & Seal products, Simrit also offers individual solutions tailored to specific customer applications.



Available materials

ACM, AEM, EPDM, FKM, HNBR, NBR, VMQ

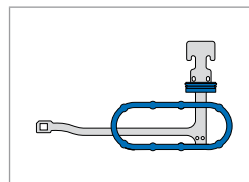
Application

Valves, Engines and transmission applications, Pipe systems

Seal with Flexible Printed Circuit Board

New possibilities are created by flexible circuit paths, in combination with an elastomer seal. The sensor, electrical conductor, seal, support and connecting element can be integrated into one module. The wide selection of available variants with different materials leads to fascinating new solutions. Manifold variation possibilities arise from:

- The combination of different flexible circuit paths and sealing materials
- The connection of sensors for the measuring of pressure, temperature or other physical or even chemical parameters
- Different plug connections and various support materials.



T ≤ +150 °C

Available materials

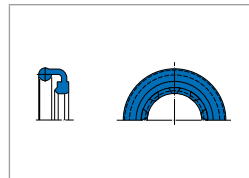
FKM, NBR, Pyralux

Application

Solenoid valves, Engine and transmission applications, Engine management systems

Precision mouldings

Precision mouldings for use as sealing or damping components. Features customised design and high material quality. Simriz® and butyl rubber are ideal materials for requirements such as media stability and gas-tightness.

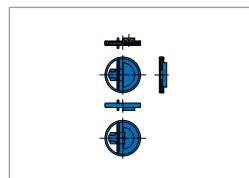


Available materials

Butyl, Simriz®

Miniature Parts/Simriz® (FFKM) Precision Mouldings and Composite Parts

Micro and miniature elastomer composite and moulded parts, developed for the individual customer application. Can be manufactured in a great variety of materials and designs. In particular, composite parts made from Simriz (FFKM) and special and support components are used for very high media resistant requirements. Additional advantages are multifunctional properties of the miniature parts e.g. sealing, damping or magnetic control.



T ≤ +260 °C

Available materials

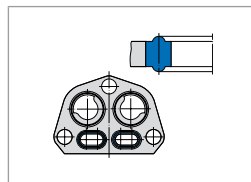
Simriz® (FFKM)

Application

Valves, Medical technology and semiconductors

Sealing Plates/Rubberised Sheet Seals

Sealing plates/rubberised sheet seals join multiple, often varying sealing contact areas with each other. In principle, sealing plates consist of a support component (e.g. punched metal plate) with vulcanised sealing lips. Multiple sealing components (e.g. O-rings) are combined in one single component. The support component design guarantees a defined compression of the sealing bead, nearly independently of the tightening torque of the connecting screws.



T -40 ... +180 °C

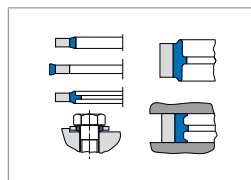
p 250 ... 800 MPa

Application

Construction machinery, Engine and transmission applications, Tractors and other agricultural machinery

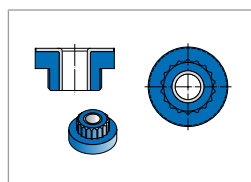
Usit Rings in special designs and made from special materials

Along with the standard Simrit range of Usit rings for static sealing of connections, for example, we also provide special forms for special uses, such as designs with rubberised sides, conical sealing embossments, or with centred diaphragm on the inner diameter.



Decoupling Elements

Various elastomer-metal design components are used to reduce vibrations and noise in the area of engines and auxiliary units. These components are used amongst others on the resilient attachment as well as the sealing of metal components on the oil sump, the cylinder head cover on the engine block and injector valves. One example in the engine controller of commercial vehicles, which is attached to the vehicle with screws. Elastomer composite components are used for resilient vibration-decoupling attachment.



Available materials

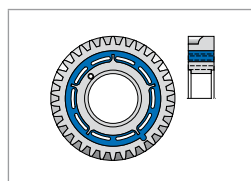
Steel, VMQ with low hardness (Shore)

Application

Engine and transmission applications

Decoupled Gears

Spur gears are used to drive the camshafts and auxiliary units for diesel engines. The auxiliary units develop unwanted vibrations that cause noise and affect the smoothness. Solution: the gears are separated radially, joined by an elastomer component again and thus decoupled. Vibrations and noise can be significantly reduced.



T -25 ... +140 °C

p 0,3 MPa

Available materials

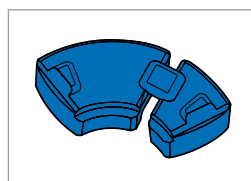
HNBR, Steel

Application

Camshaft gear, Gears for spur gear drives, Medium and large diesel engines with sprocket/spur gear drive for construction machinery, tractors and other agricultural machinery

Drive elements

Function: reduce inhomogeneity in drives for uniform comfortable runout; the elastomer part works as an elastic spring and damper. Function design via FEM calculations.

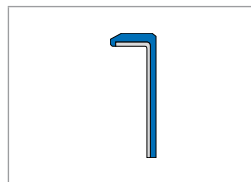


Available materials

HNBR, NR

Sealing Cover GA

Normal design rubber on outside. Sealing cover with vulcanised reinforcement sheets made from sheet steel.



T -40 ... +100 °C

Available materials

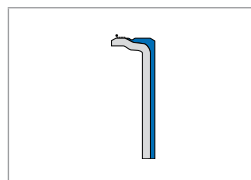
75 NBR 99004

Application

Sealing of drill holes in housings

Sealing Cover GSA

Special design with rubber-steel outside. Sealing cover with sheet metal stiffeners with metallic seat (H8) for higher release force.



T -40 ... +100 °C

Available materials

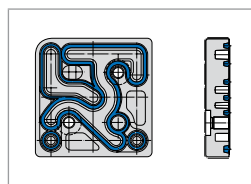
75 NBR 99004

Application

Sealing of drill holes in housings

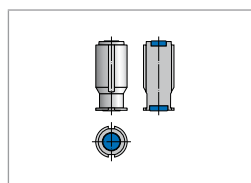
Cover Seal (plastic/elastomer composite)

Substrate parts made from thermoplastic or thermosetting polymers; low-cost solution for complex geometries; applications: cover seals with multifunctional screw possibilities / various valve functions. Highly economical through use of special production processes.



Magnetic inductors and magnetic cores

Composite parts made from magnetic metal with vulcanised elastomer, for sealing and damping in solenoid valves as well as precision moulded parts for armature assembly. Optimisation of nozzle geometry with FEM calculations, assembly of precision shaped parts and springs on to substrate body. Coatings possible on request.



T -40 ... +200 °C

Lifespan Service life ≤ 600 million switching cycles

Coating PTFE, RFN, Plasma

Available materials

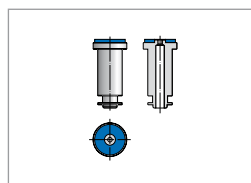
EPDM, FKM, FFKM, NBR, HNBR, VMQ, FVMQ, ACR, BIIR

Application

Household appliances, Building technology (e.g. gas hot water heaters, oil burners), Industrial pneumatics

Valve body with axial seal

Elastomer or elastomer composite part with substrate part made from metallic material (turned, stamped or cast part) or plastic (injection-moulded part) with opening and closing function in valves. Can be made with nearly any material combinations, adapted to the respective application. Economical solution as composite part with high functional reliability and service life.



T -40 ... +200 °C °C

Lifespan Service life ≤ 600 million switching cycles

Coating PTFE, RFN, Plasma

Available materials

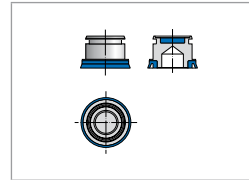
EPDM, FKM, FFKM, NBR, HNBR, VMQ, FVMQ, ACR, BIIR

Application

Household appliances, Building technology (e.g. gas hot water heaters, oil burners), Industrial pneumatics

Valve body, multifunctional

Elastomer composite element composed of a metallic material or plastic part and elastomer adapted to the respective application, mechanically or chemically joined. Functions: sealing, damping, guiding, centering, positioning. Large range of designs through use of plastic substrates. Economical solution through component reduction. High functional reliability and long service life.



T

-40 ... +200 °C

Lifespan

Service life ≤ 600 million switching cycles

Coating

PTFE, RFN, Plasma

Available materials

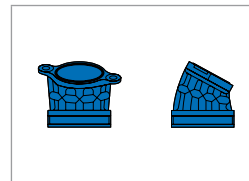
EPDM, FKM, FFKM, NBR, HNBR, VMQ, FVMQ, ACR, BIIR

Application

Household appliances, Building technology (e.g. gas hot water heaters, oil burners), Industrial pneumatics

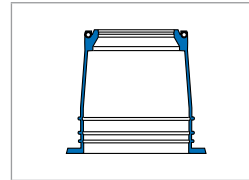
Intake branches

Elastomer composite part composed of a metallic substrate sheet for secure fastening and sealing on cylinder head and a rubber tube with optimised flow cross sections for efficient air supply.



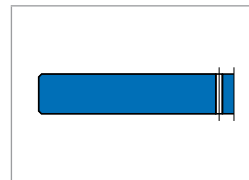
Injector seal

Injector seals prevent penetration of water, dirt and dust into the valve area as well as leakage of oil from the motor compartment in diesel engines with direct injection. The Simrit injector seals offer customers high reliability with temperature and media stability, thereby guaranteeing continuous and reliable functioning.



Thermal spacer rings/reaction rings

Compensation for the different thermal expansions of aluminium housing and steel shaft with use of tapered roller bearings. Advantage: knowledge of thermal expansion characteristics and control of gap extrusion.

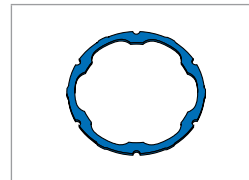


Available materials

HNBR

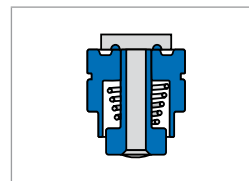
Parts pressed from rolls and sheets

We supply drilled, stamped, punched or hose-cut flat seals, with or without polished surfaces, made from all suitable standard and special elastomers from Simrit. Advantage: no or lower tool investment costs, materials know-how.



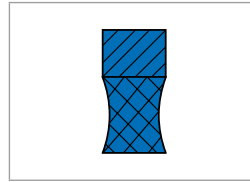
Modules

Assembly of components for elastomer composite parts and precision shaped parts. Available pre-assembled, multi-part seal sets (modules) with integrated elastomer and elastomer composite parts.



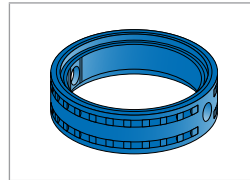
Elastomer and PTFE Composite as punched-out components

Composites manufactured in belt or sheet form, with subsequent stamping or drilling. The elastomer assumes the elastic pre-tensioning and static sealing functions and the PTFE reduces friction on the dynamic sealing side.



Butterfly Valve Seal

Butterfly valve seals are utilised in thousands of butterfly valves in the process control of plants and systems. The elastomer moulded ring is compressed radially during the closing procedure and thus seals high and low viscosity media. The decisive factor for the correct function of the seal is a low friction and a low compression set of the butterfly valve seal as well as the high-temperature and media resistance explicitly also in cleaning media (CIP – Cleaning In Place/SIP – Sterilisation In Place).



T -40 ... +180 °C

Available materials

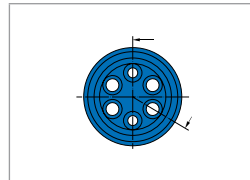
EPDM, FKM, NBR, HNBR, VMQ

Application

Foodstuffs and chemicals industry

Cable sleeves

PTFE shaped parts made using pressure-assisted sintering. For insulation of cable harnesses, e.g., in probes. Low dielectric constants as well as high volume resistivity.



T -150 ... +220 °C

Available materials

PTFE

Mechanical composite parts

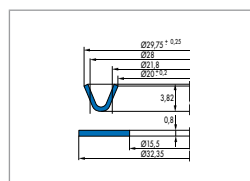
PTFE sealing elements, e.g., piston rings with contact pressure element, pre-assembled on substrate part, e.g. piston, and calibrated at factory. Advantage: lower production depth through prefabricated components.

Available materials

PTFE

Lip seals

Coined lip seals with memory effect and hence initial sealing effect, low friction, low contact forces compared with seals with contact pressure elements. Wide range of applications in various areas.

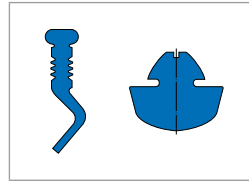


Seal rings with and without support

Special PTFE seal with elastomer element or metal spring for maintaining contact force in various temperature ranges, as supplement to standard catalogue range for hydraulics. Materials: special compounds with special fillers for high tribological loads. Temperature range is dependent on elastomer material used.

Elastomer profiles

Extruded profiles, endless on site or glued/vulcanised on the joint. Customised profiles meet the requirements depending on functionality, composition variety adapted to operating parameters, media, and wear.

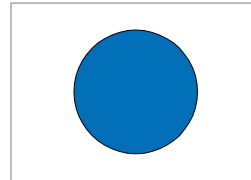


Application

Rotary kilns, large lids/closures, Loading hatches, Tunnel boring machines, Wind turbines

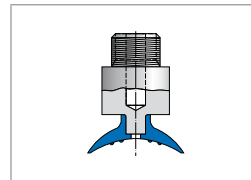
Cord and Cord Rings

The endless, extruded cord with O-ring profile serves as base material for cord rings, among others. These are used, for example, for the sealing of large flanges or tank lids. Cord rings are extruded cords, which are cut to the appropriate diameter and bonded or vulcanised to butt.



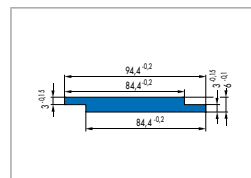
Pneumatically Actuated grippers and Suction Caps

Shaped parts for automated handling technology. Responsible inside grippers for extremely sensitive handling goods, adhesive suction caps for largely smooth gripping surfaces and vacuum suction caps for rough and porous gripping surfaces on workpieces. Apart from a standardised range of available products, a large selection of special solutions as well as products with or without ball valves are available.



Guide elements

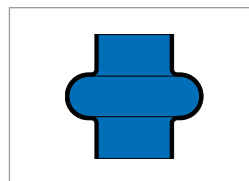
Guide elements with square cross sections fabricated as rotating parts or from belt material. Cutouts for any piston or rod diameters possible. Guide elements generally have bevel cuts due to the thermal expansion. Special design with step cut available on request.



Standard product range Bellows

Single Bellows

Single convolution bellows are protective components for shaft joints that are primarily subjected to angular movement. The axial flexibility is limited. Single bellows prevent the leaking of lubricants at the joints and protect against contamination.



T -40 ... +100 °C, -30 ... +100 °C

Manufacturing length 9 ... 141,6 mm

Outside-Ø 20 ... 375 mm

Available materials

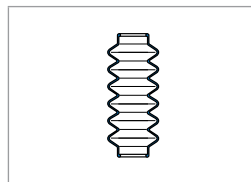
CR, NBR

Application

Shaft and ball joints, Tube ends

Multiple Bellows

Bellows are protective elements comprising a moving section and two connection pieces for fastening. They protect axially moving rods and machine parts against soiling, water spray, dust or the effects of the weather. Depending on their design, they can accommodate movements perpendicular to the axis or a combination of movements (e.g. gear levers). Multiple bellows are available in a variety of sizes and shapes.



T -40 ... +100 °C, -30 ... +100 °C

Manufacturing length 8 ... 720 mm

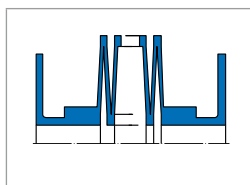
Outside-Ø 4,5 ... 350 mm

Available materials CR, NBR

Application Hydraulic and pneumatic cylinder, Axle bearing, Ball joints, Tube ends, Switch lever

Bellows made of PTFE

High flexibility and elasticity, small installation length. Stable walls, good flexibility, sufficient length expansion reserves.



T -120 ... +200 °C

P 0,05 ... 0,6 MPa

Available materials PTFE

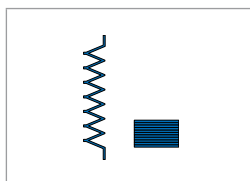
Application Apparatus construction, Chemical and pharmaceutical industry, Expansion and vibration compensation, Dispensing pumps, Control and shut-off valves

Special product range Bellows

Disk Bellow

Disk bellows can have an elongation ratio of up to 1:16. At the minimum length (in the compressed state) the bellows is reduced to a cylindrical block. Despite this small block size, a large L_{max} (maximum length) can be achieved.

Wherever round drive elements (piston rods or threaded spindles) need to be securely protected against soiling or where people need to be prevented from contact with moving machine parts, the disk bellows is the right choice.



T -15 ... +110 °C

T 0 ... +90 °C

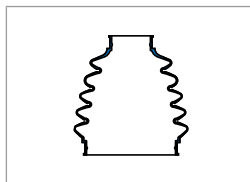
T -10 ... +60 °C

Available materials CSM, NBR, xTend

Application Hydraulic and pneumatic cylinder, Trapezoid or ball-shaped spindles, Special machine construction

Bellows in special materials and customer-specific bellows

Apart from the large range of bellows using standard materials, bellows made from special materials are used in numerous cases according to the specific operating conditions. The development of customised bellows, e.g., according to customer's drawings is possible.



T -40 ... +140 °C

T -15 ... +180 °C

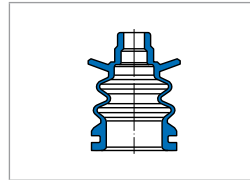
T -80 ... +200 °C

Available materials EPDM/HNBR, FKM, VMQ

Application Electrical engineering, Foodstuffs industry

Bellows for Cable Bushing

The Bellows for cable bushing is a bellows with flexible connection system. Cable bushings are located where cables, Bowden cables (or similar) must pass through chamber separations. Because of multiple connection diameters many different cable diameters can be sealed with a bellow for cable bushing. The sealing of chamber separation using bellows for cable bushings protects the inner area against dirt, dust, water, contaminants, amongst others.



T -40 ... +70 °C

Available materials

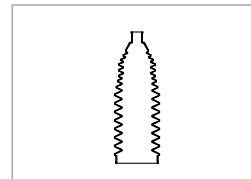
PVC

Application

Shipbuilding, White goods, Agriculture and construction machinery

Steering bellow

Multi-convolution bellows with adapted geometry for protection of steering linkages.



T -40 ... +100 °C, -40 ... +110 °C

Available materials

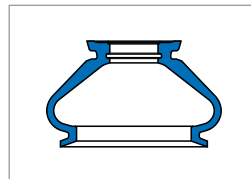
CR, TPE

Application

Agricultural and construction machinery

Bellows for ball-headed joints

Bellows seal in the form of single-convolution or double-convolution bellows, primarily used for ball joints in tie rods in steering systems and chassis. In the connection areas metal or plastic rings can be vulcanised as reinforcement.



T -40 ... +100 °C

Available materials

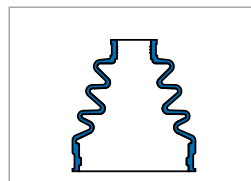
CR

Application

Ball joints on steering system and under-carriage

Joint shaft bellow

Moulded parts often called axle boots for use in joint shafts, for example on front or rear wheel drives in construction equipment, commercial vehicles, and in general vehicle construction. Joint shaft bellows ensure steady lubrication of the joint and reliable and durable sealing against the emission of grease and the ingress of dirt.



T -40 ... +100 °C, -40 ... +110 °C

Available materials

CR, TPE

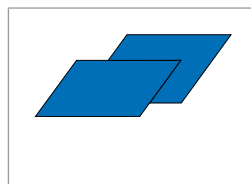
Application

Drive shafts, Drives (agricultural vehicles, general industry)

Standard product range Sheets and Rubberised Fabrics

Sheets

Sheets can be manufactured as pure elastomer sheets, as fabric reinforcement, as well as PTFE layers or inserts. In the majority of cases they are further processed to flat diaphragm or other shaped parts.



T -100 ... +220 °C

Available materials

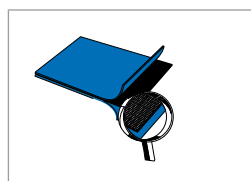
Elastomeric materials

Application

General industry, Aerospace industry

Rubberised Fabric

Rubberised fabrics are special, high-quality fabrics coated on both sides with suitable elastomer qualities. Special production processes make it possible for even thin layers of elastomer to be applied to the pre-treated fabrics with good adhesion and free of pores.



T -40 ... +130 °C

Available materials

CR, ECO, EPDM, NBR, PA, PES

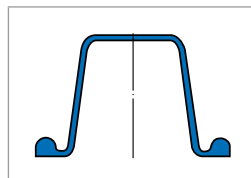
Application

General industry

Standard product range Diaphragms

Long-Stroke Rolling Diaphragms BFA

Long-stroke rolling diaphragms are thin-walled, special sensitive diaphragms made from highly elastic materials with fabric reinforcement.



T -40 ... +80 °C

Available materials

50 NBR 253

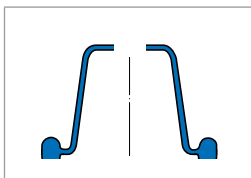
Application

Pressure switches, Control and regulation equipment

Special product range Diaphragms

Long-stroke rolling diaphragm for actuating and regulating valves

Apart from the standard BFA range, long-stroke rolling diaphragms with special shapes such as various flange shapes, bead designs with or without hole on the cover side or special radii, with or without fabric reinforcement.



T -60 ... +200 °C

Available materials

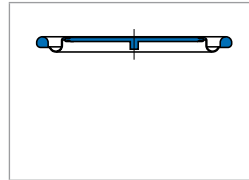
VMQ, FKM, EPDM, NBR

Application

Pressure switches, Control and regulation devices

Diaphragms for gas pressure regulators

High-quality shaped diaphragms with or without fabric reinforcement and/or vulcanised valve plates for gas pressure controls in high-pressure or low-pressure range. Materials are used with DVGW approval.



T -60 ... +200 °C

Available materials

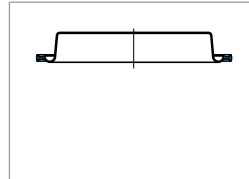
NBR, FKM, HNBR, EPDM, VMQ

Application

Control, Automation and gas control technology

Thin-walled sensitive diaphragms for actuating and regulating valves

To ensure extremely easy response of a control valve, thin-walled diaphragms with or without fabric reinforcement are required. Special materials based on silicone provide the corresponding functional reliability at low temperatures.



T -100 ... +220 °C

Available materials

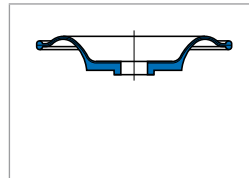
VMQ, FVMQ, PVMQ

Application

Fine mechanics and precision engineering

Diaphragms for solenoid valves and pressure reduction units

Diaphragms as separating components with simultaneous valve seat function.



T -50 ... +200 °C

Available materials

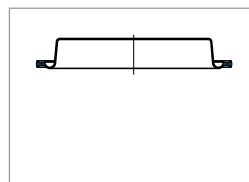
NBR, EPDM, FKM, HNBR

Application

Pneumatic, Fluid and building technology

Actuating and regulating diaphragms

Compression-moulded diaphragms with diameters greater than 1000 mm. Depending on pressure and medium, materials are with or without fabric reinforcement.



T -60 ... +220 °C

Available materials

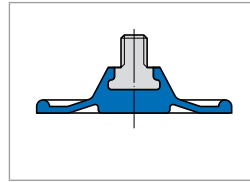
CR, EPDM, HNBR, NBR, VMQ

Application

Adjustment and control valves in plants and pipeline construction

Diaphragms for shut-off valves

Shaped diaphragms for shut-off valves, in various designs, in part with fabric inserts and vulcanised metal parts, PTFE or Simriz® coating.



T -60 ... +220 °C

Available materials

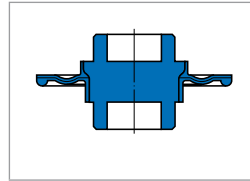
BR, CR, EPDM, VMQ

Application

Food, Pharmaceutical and sanitary technology

Diaphragms for pressure switches

Responsive diaphragms for water level control. Pressure regulation function with thin-walled non-fabric diaphragms as transmission element to electric switching contacts.



T -60 ... +220 °C

Available materials

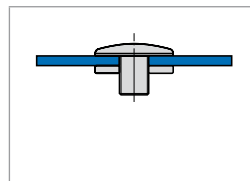
EPDM, NBR, NR, VMQ

Application

Household appliances, Coffee machines and boilers, and in pneumatics

Diaphragms made from rubberised fabrics

Diaphragms made from rubberised fabrics. Deep-drawn MT diaphragms are low-cost alternatives to pressed shaped diaphragms. Diaphragm cloth materials with substrate fabrics based on polyester and polyamide.



T -40 ... +130 °C

Available materials

CR, ECO, EPDM, NBR

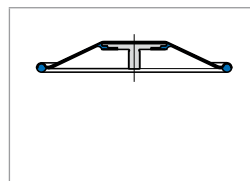
Application

Valves, Industrial controls, Pumps

Diaphragms for Pumps and Compressors

In modern pumps both pure elastomer diaphragms and elastomer combinations are utilised, namely:

- Fabric for reinforcement
- PTFE layer against chemical attack
- Metal or plastic support components for force or path transmission.



T -50 ... +200 °C

Available materials

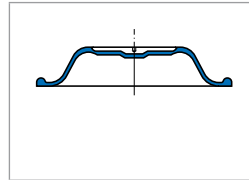
CR, EPDM, FKM, HNBR, NBR

Application

Dispensing and feed pumps

Accumulator diaphragms for industrial hydraulics

As a solution to impact pressures in the lines.



T -50 ... +150 °C

Available materials

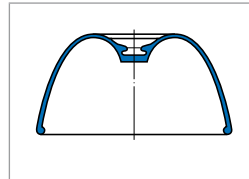
AU, ECO, EPDM, HNBR, IIR, NBR

Application

Units in general industry

Accumulator diaphragms

Diaphragms made from materials with extremely low gas permeation and good low-temperature flexibility for use in industrial hydraulics.



T -50 ... +150 °C

Available materials

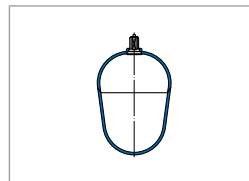
AU, ECO, EPDM, HNBR, IIR, NBR

Application

Pressure accumulators in hydraulic systems

Bladders

Pressed or injection-moulded and in part subsequently assembled complete bladders. Diffusion-proof mixtures as materials.



T -50 ... +150 °C

Available materials

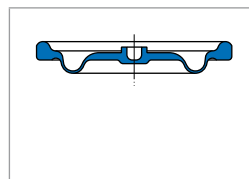
ECO, EPDM, IIR, NBR

Application

Agricultural machinery, Construction machinery, Conveyance technology and hydraulic circuits in general industry

Silicone diaphragms

Rolling diaphragms and recirculation diaphragms made in part from oil-resistant solid and liquid silicones with outstanding temperature stability. Customised designs.



T -100 ... +220 °C

Available materials

VMQ, FVMQ, PVMQ

Application

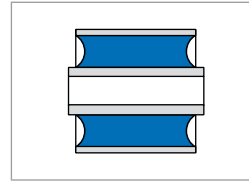
Pneumatic applications, Sanitary equipment

Vibration Control

Standard product range

Ultra Bush

Ultra bushings can be used as maintenance-free joints to dampen or insulate radial and axial vibrations and to balance torsional and cardanic displacements.



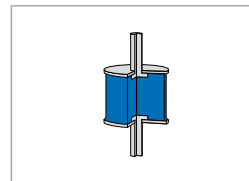
T	-45 ... +80 °C
Radial: $F_{r \max}$	350 ... 460000 N
Radial: $s_{r \max}$	0,2 ... 2,9 mm

Available materials	AEM 23, AEM 33, NBR 68, NR 11, NR 39, NR 91, NR 97
----------------------------	--

Application	Shafts, Axles, Couplings
--------------------	--------------------------

Circular Mount

Round mounts are common construction elements for balancing stress and manufacturing tolerances. They act as shock-absorbers. Round mounts with waisted rubber contour reduce high edge loading on the rubber in radial deflection, thus increasing the lifespan of the component. Simple round mounts with a cylindrical contour are also available.



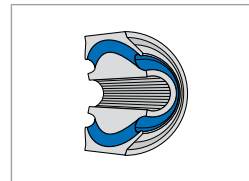
T	-45 ... +80 °C
Radial: $F_{s \max}$	14 ... 24000 N
Radial: $s_{s \max}$	0,6 ... 36 mm

Available materials	AEM 23, AEM 33, CR 56, CR 57, NR 11
----------------------------	-------------------------------------

Application	Units in general industry, Compressors, Motors, Pumps
--------------------	---

Spherical Mount

These spherical bushings can balance axial, radial, and torsional motion as well as cardanic deflections. They are thus an ideal vibration-damping component for maintenance-free joints which are torsionally stressed on all sides.



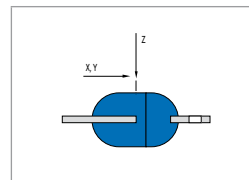
T	-45 ... +80 °C
Radial: $F_{r \max}$	1200 ... 46000 N
Radial: $s_{r \max}$	0,3 ... 0,8 mm

Available materials	NR 11, NR 13
----------------------------	--------------

Application	General industry, Commercial vehicles
--------------------	---------------------------------------

Instrument Mount

The mounts protect sensitive instruments against impact and dynamic excitation.



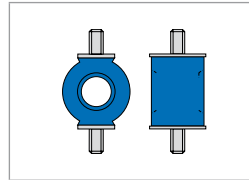
T	-45... +80 °C
Pressure: $F_{z \max}$	80 ... 260 N
Pressure: $s_{z \max}$	0,5... 2 mm

Available materials	NR 11
----------------------------	-------

Application	Electronic components, Instrument and apparatus construction
--------------------	--

O-Shaped Mount

Also known as low-frequency mounts because of their relatively soft spring characteristics, O-shaped mounts serve as low-shock mounts for instruments, electrical or electronic components, and for fastening light assemblies and precision machinery.



T -45... +80 °C

Pressure: $F_{z \max}$ 20 ... 215 N

Pressure: $s_{z \max}$ 4 ... 12 mm

Available materials

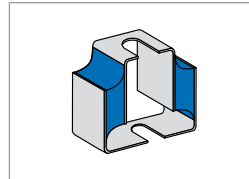
EPDM 22, NBR 68, NR 11

Application

Instrument and apparatus construction

Double U-Shear Mount

The mounts are especially suited for insulation. Thanks to their differing stiffness in three load directions, they can be aligned to the forces emitted by the assembly.



T -45... +80 °C

Shear $F_{z \max}$ 120 ... 2000 N

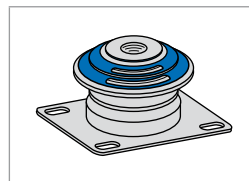
Shear: $s_{z \max}$ 2,8 ... 7 mm

Available materials

NR 11

Conical Mount

Conical mounts damp vertical vibrations, isolate against structure-borne noise and can simultaneously accept large horizontal forces (e.g. deceleration forces under braking). Conical mounts are delivered without washers as standard. The suitable washers and stops can be found in the section on Washers and Centering Washers as well as in Rubberised Stop Washers.



T -45... +80 °C

Axial: $F_{z \max}$ 550 ... 40800 N

Axial: $s_{z \max}$ 2 ... 11 mm

Available materials

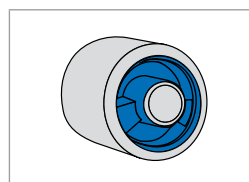
AEM 33, NBR 68, NR 11, NR 39

Application

Units in general industry, Motors, Ship building

Hydro Bushes

Hydro bushings are elastomer springs with integrated hydraulic damping. They are especially suitable in mounting systems where low frequencies appear as excitation frequencies.



T -45... +80 °C

$F_{z \max}$ 1100 ... 4200 N

$s_{z \max}$ 5 ... 5 mm

Available materials

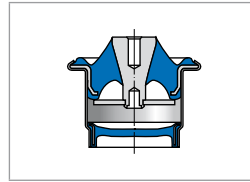
NR 11

Application

Vehicle cabs, Compressors, Agricultural and construction machinery, Motors, Pumps

Hydro Mount VL

The mount design, the chosen fluid and the hydraulic mechanism provide the characteristic wide-band damping. In cases with remote excitation frequencies in the lower frequency range, the use of this hydro mount permits an optimal mounting. By precise reduction of the fluid chamber stiffness of one of the chambers, a significantly improved compromise of effective vibration reduction and structure-borne sound isolation is achieved as opposed to the hydro mounts without this design.



T -45... +80 °C

Axial: $F_{z \max}$ 2100 ... 8800 N

Axial: $s_{z \max}$ 10 ... 10 mm

Available materials

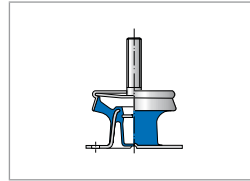
NR 11

Application

Vehicle cabs, Agricultural and construction machinery, Motors

Hydro Mount DL

The hydro mount, as a hydraulically damping rubber mount, solved the designer's conflict of how to mount a mass that is excited by wide frequency spectrum. Particularly if low frequencies – between 5 Hz and 15 Hz – can occur as the excitation frequency, on the one hand high damping in the natural frequency range of the system, and on the other, a good isolation property above this natural frequency (supercritical mounting) is necessary.



T -45... +80 °C

Axial: $F_{z \max}$ 700 ... 1700 N

Axial: $s_{z \max}$ 5 ... 5,6 mm

Available materials

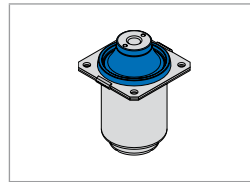
NR 11

Application

Vehicle cabs, Motors, Commercial vehicles, Pumps, Ship building

Hydro Mount KL

The new Hydro Mount KL is ideally suited for mounting systems with the highest comfort and acoustic demands. The mount configuration can be individually adjusted to suit the specific customer application.



T -45... +80 °C

Available materials

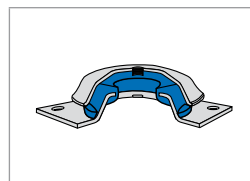
NR 11

Application

Vehicle cabs, Agricultural and construction machinery, Motors

V Mount

V mounts are ideal for a multiplicity of applications in vibration control and structure-borne sound insulation.



T -45... +80 °C

Axial: $F_{z \max}$ 500 ... 32000 N

Axial: $s_{z \max}$ 5 ... 5 mm

Available materials

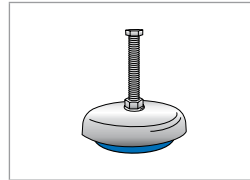
NR 11

Application

Compressors, Motors, Machine tools, Pumps

M Mount

M mounts combine a low-line compact design with good insulation capabilities and the possibility of levelling load.



T -20... +110 °C

Pressure: $F_{z \max}$ 1200 ... 55000 N

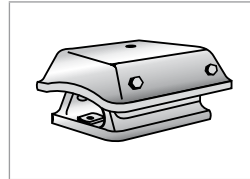
Pressure: $s_{z \max}$ 3,5 ... 4 mm

Available materials NBR 68

Application Heavy machinery manufacture

Machine Mount

The special shape of the machine mount protects the built-in flat mount against mechanical damage and oil attack.



T -45... +80 °C

$F_{z \max}$ 1400 ... 16000 N

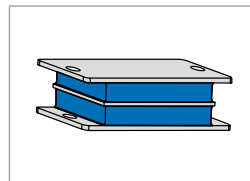
$s_{z \max}$ 5,8 ... 11 mm

Available materials NR 11

Application Heavy machinery manufacture

Flat Mount

These mounting elements are suitable for custom applications. Depending on the mounting orientation and desired vibration insulation, they can be pressurised, sheared, or both.



T -45... +80 °C

Pressure: $F_{z \max}$ 1200 ... 98000 N

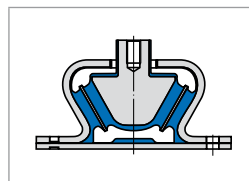
Pressure: $s_{z \max}$ 2 ... 3,5 mm

Available materials NR 11

Application Machine and vehicle manufacturing, Motors

Tapered Mount

Tapered mounts are suitable for light, medium, and heavy engines in mobile and stationary applications. The high temperature-resistant natural rubber mixture is also stable under extreme temperature loads.



T -45... +100 °C

$F_{z \max}$ 1750 ... 14000 N

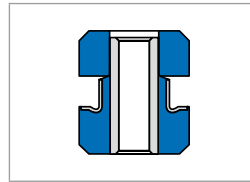
$s_{z \max}$ 5 ... 5 mm

Available materials NR 39

Application Agricultural and construction machinery, Ship building

MO Mount

MO bearings consist of a rubber part and a rubber-metal part. They are suitable for use as elastic connecting elements.



T -30... +130 °C

F_{z max} 420 ... 5700 N

s_{z max} 1,55 ... 3,7 mm

Available materials

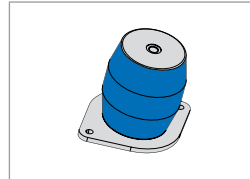
CR 57

Application

Vehicle cabs, Machine and vehicle manufacturing

Spherical Roller Bearing

Spherical roller bearings are ideal for their vertical loading and insulation against low-amplitude vibrations.



T -45... +80 °C

Pressure: F_{z max} 9000 ... 20000 N

Pressure: s_{z max} 50 ... 50 mm

Available materials

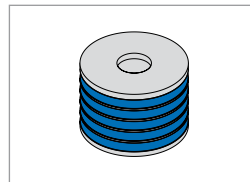
NR 11

Application

Units in general industry, Compressors, Motors, Heavy measurement and control systems

Layered Springs

Layered springs are specifically used for the decoupling of horizontal vibrations. These mounts remain very stiff at the same time.



T -45... +100 °C

Pressure: F_{a max} 29000 ... 800000 N

Pressure: s_{a max} 2,5 ... 9 mm

Available materials

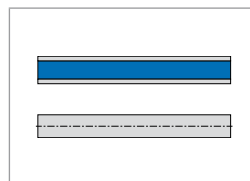
CR 57, NR 11, NR 39, NR 97

Application

Motor and transmission applications

Rails

Rails are often used when space is at a premium or if loads are too high to permit the use of buffers.



L 2000... 2000 mm

D 25 ... 150 mm

H 30 ... 80 mm

Available materials

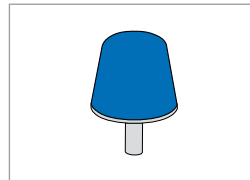
NR

Application

Construction machinery, Foundations, Ship building, Heavy machinery manufacture

Buffer

Buffers feature a very robust design. The wide selection of sizes allows for a universal use.



T -45... +80 °C

Pressure: $F_{D \max}$ 90 ... 10000 N

Pressure: $s_{D \max}$ 1,5 ... 20 mm

Available materials

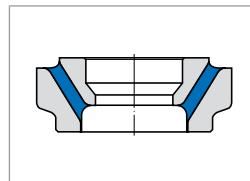
NR 11

Application

Units in general industry, Machine and vehicle manufacturing, Path limitation and impact damping

Top Mount

Top mounts can permit radial, axial and angular movements.



T -45... +80 °C

Radial: $F_{r \max}$ 10500 ... 25300 N

Radial: $s_{r \max}$ 2,3 ... 2,3 mm

Available materials

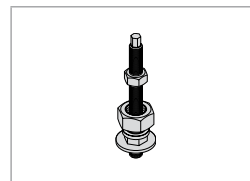
NR 11

Application

Motor and transmission applications

Height Adjustments, Washers, centering Washers and rubberised Washers

These are additional components for height adjustment or as stop elements. They effectively restrict load movements in moving and stationary units, machines and stops.



Available materials

NBR 68, NR 11, Steel

Application

Stop element, Engine and transmission applications

Notes

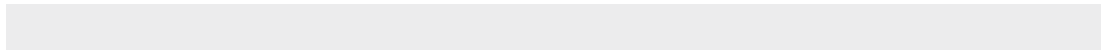
Simrit Service Centres and Simrit Partners Worldwide

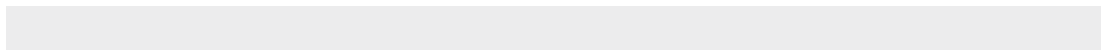
Europa	Telefon	Fax	E-mail
Belgien	+32 (0) 9 331 55 90	+32 (0)9 331 55 99	belux@simrit.fr
Dänemark	+45 (0) 44 92 18 33	+45 (0) 44 92 25 20	info@simrit.dk
Deutschland	+49 (0) 18 05 74 67 48	+49 (0) 18 03 74 67 48	info@simrit.de
Finnland	+358 (0) 94 52 01 80	+358 (0) 94 52 01 822	info@simrit.fi
Frankreich	+33 (0) 3 85 29 30 00	+33 (0) 3 85 29 30 87	simrit@simrit.fr
Großbritannien	+44 (0) 14 55 20 44 44	+44 (0) 14 55 20 44 55	info@simrit.com
Italien	+39 045 85 17 600	+39 045 85 17 650	vendite@corcos-simrit.it
Norwegen	+47 64 83 01 70	+47 64 83 01 71	info@simrit.no
Österreich	+43 (0) 72 42 47 36 10	+43 (0) 72 42 47 36 120	marchtrenk@simrit.at
Polen	+48 (0) 2 28 33 77 16	+48 (0) 2 28 33 58 97	simrit@simrit.com.pl
Portugal	+34 93 573 87 08	+34 93 570 49 65	simrit.iberica@simrit.es
Russland	+7 495 380 06 50	+7 495 380 06 51	info@simrit.ru
Slowakei	+421 47 483 14 59	+421 47 491 11 29	info@simrit.de
Spanien	+34 93 573 87 08	+34 93 570 49 65	simrit.iberica@simrit.es
Schweden	+46 (0) 8 70 52 700	+46 (0) 8 83 81 63	info@simrit.se
Schweiz	+41 (0) 44 306 44 22	+41 (0) 44 302 70 02	info@simrit.ch
Tschechische Republik	+420 2 71 72 21 87	+420 2 71 72 35 63	simrit@simrit.cz
Türkei	+90 (0) 216 593 11 18	+90 (0) 216 593 11 18	info@simrit.de
Ukraine	+380 50 352 61 83	+380 44 236 05 43	info@simrit.com.ua
Ungarn	+36 1 239 31 40	+36 1 239 31 43	info@simrit.hu
Amerika	Telefon	Fax	E-mail
Brasilien	+55 11 4072 8000	+55 11 4075 4635	simritsa@fngp.com
Mexiko	+52 442 192 3200	+52 442 221 6319	rzn@fngp.com
USA	+1 (0) 734 451 0020	+1 (0) 734 451 5500	information@simrit.us
Asien	Telefon	Fax	E-mail
China	+86 21 50 36 69 00	+86 21 50 36 63 07	simrit@nfgc.com.cn
Indien	+91 124 400 79 60	+91 124 401 86 68	sales@sfnindia.com
Japan	+81 3 34 32 84 15	+81 3 34 32 39 19	kozohrht@nok.co.jp
Singapur	+65 (6) 265 32 33	+65 (6) 265 57 31	sales@nok.co.th
Afrika	Telefon	Fax	E-mail
Südafrika	+27 (0) 119 74 83 31	+27 (0) 119 74 17 86	info@simrit.de

Further Simrit Service Centres and Simrit Distributors can be found at www.simrit.com

Query

Please copy this form and send your query or order to the fax number +49 (0) 18 03 - 74 67 48.
You can also, of course, forward the filled out form directly to your personal Simrit contact person


Company



Last name, first name

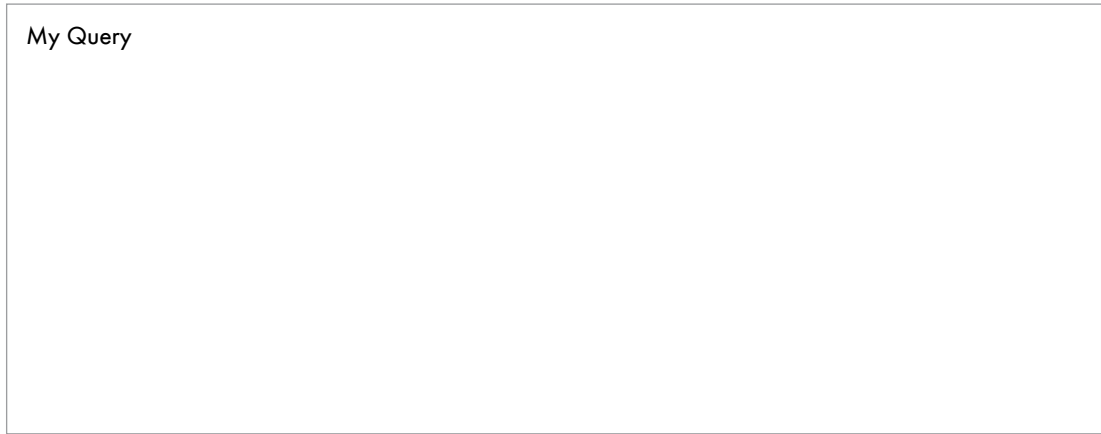

Street


Postal code, city


Country


Telephone




My Query


Company stamp

Date/Signature

www.simrit.com

Simrit Americas

Plymouth, Michigan, USA
Tel: +1 (866) 274 6748
Fax: +1 (734) 354 5500
E-mail: information@simrit.us

Simrit Europe

Weinheim, Germany
Tel: +49 (0) 18 05 - 74 67 48
Fax: +49 (0) 18 03 - 74 67 48
E-mail: info@simrit.de

Simrit China

Shanghai, China
Tel: +86 (21) 50 36 - 69 00
Fax: +86 (21) 50 36 - 63 07
E-mail: simrit@nfgc.com.cn

simrit®