Sealing technology

From standard gaskets to specialized high-performance seals.

HÄNSSLER
Kunststoff- und Dichtungstechnik

Sealing technology

You have an idea - we seal it!

We have been manufacturing and trading sealing elements for almost all areas of application and industries since 1986. We see ourselves as a development partner and focus on personal, technical advice.

Today, our family business – with around 65 employees and over 650 customers – is a globally recognized center of expertise for the development, design, production of reliable standard products and sophisticated specialty items in the field of sealing and plastics technology.

Our core competencies

- We supply the complete product range of state-of-the-art seals
- We manufacture customized sealing elements according to drawings
- We develop and produce the optimum solution according to customer requirements
- We assemble complete sealing kits according to customer specifications in order to optimize our customers' processes
- We analyze damage to sealing elements, identify causes and recommend alternatives

Our strengths

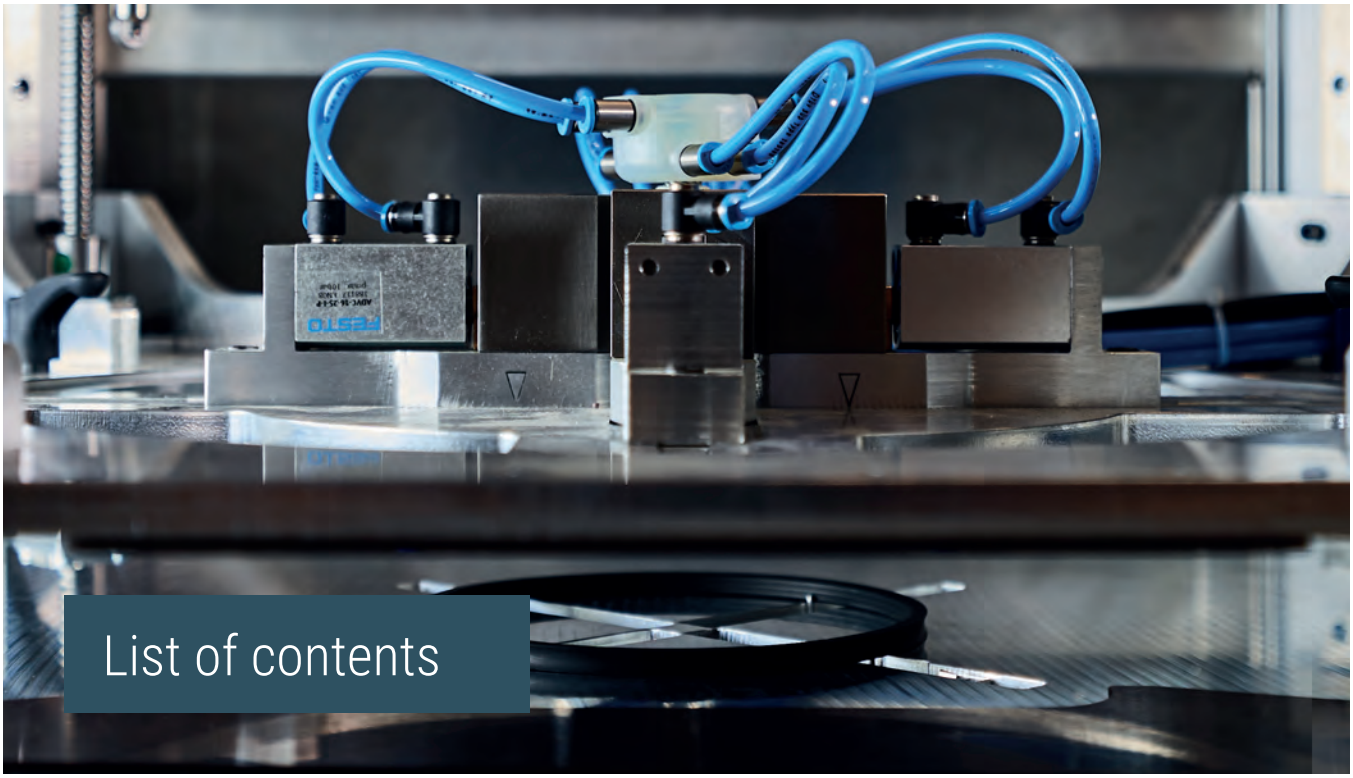
- Quality from in-house production in Mannheim (Germany)
- Flexible with respect to order quantity, material selection, intermediate and imperial sizes, and large diameters
- Availability (large warehouse with semi-finished products and standard parts)
- Short delivery times (next working day delivery possible)
- Comprehensive industry know-how

Article designations in sealing technology

When it comes to the article designation of wiper, piston and rod seals,there is a wide variety of designations used in the sealing industry. . The product designations in parts lists are often difficult to interpret. We have an extensive archive of old and current seal designations from almost all well-known producers.

The profile overviews listed in the "Sealing technology" brochure state the profile number as the article designation, e.g. DS101. In this case it means: D = turned part, S = rod seal, 101 = profile number.The following specification lists the dimension as: functional diameter x groove base diameter x groove width (note: groove width, not seal width).). The functional diameter of a rod seal is the inner diameter or the diameter of the shaft or piston rod.

Under this designation, we can manufacture virtually any required dimension for this profile with a functional diameter of up to 3000 mm from several materials.



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Sealing Technology

Technical article

In general

You can find more information
dicht.de/en/sealing-technology/

You can find relevant materials
dicht.de/en/development-partner/material-overview/

Wiper Seals for Hydraulic Applications

Wipers are installed in hydraulic and pneumatic cylinders to remove dirt, foreign particles, splinters, ice, moisture, etc. from the piston rod. This prevents contamination of the medium and protects seals, guides and other components.

Standard profiles

The standard profiles shown here are wipers that represent the state of the art. We manufacture these standard wipers ourselves or supply them as molded parts from certified partners. They are available for every required groove dimension in a variety of materials. Depending on the quantity, the material and your requirements, we can offer you wipers from the appropriate manufacturing process - all from a single source!

You can find a complete overview and further information in the following categories:

- Standard wipers
- Wipers with pretensioning elements

Selecting the right profile

The more information available , the better the scraper system can be adapted to the application.

A basic distinction is made between single-acting wipers, which protect the hydraulic or pneumatic system from external contamination, and double-acting wipers, which must also be considered as part of the sealing system in conjunction with the seals.

The following criteria are important for selecting the optimum profile and suitable material:

- Installation space
- Temperature range
- Medium
- Stroke speed
- Counterface
- Mounting option
- Friction behavior
- Expected service life
- Price
- Availability

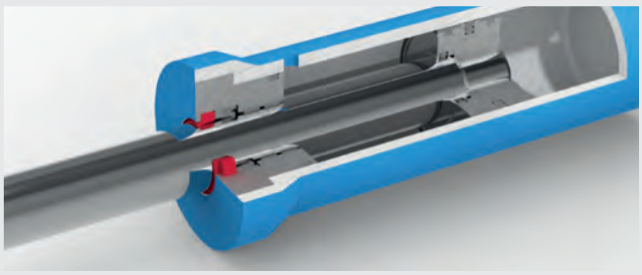
You can find more information
dicht.de/en/sealing-technology/scrapers/

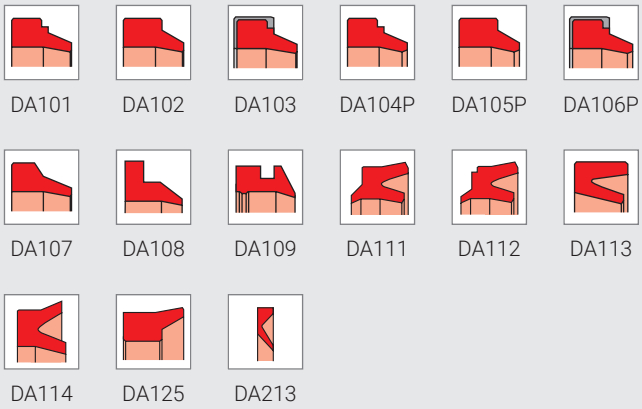
Standard wiper

Applications

- High efficiency
- Suitable for all areas of hydraulics and pneumatics
- Single-acting: typically used to remove dirt and moisture
- Double-acting: to additionally reduce the discharge of lubricating film
- Installation in open and closed grooves possible
- Many dimensions available as molded parts
- Double wipers must be coordinated with the sealing system in use

Sliding speeds	up to 1 m/s
Temperature range	--55 to +220 °C (depending on material)



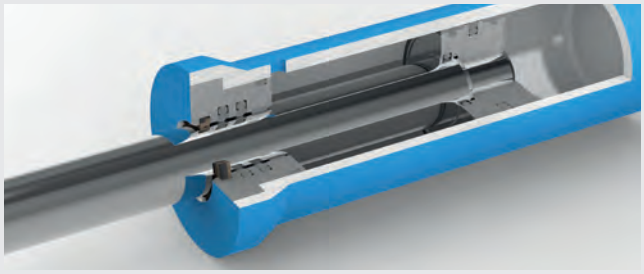


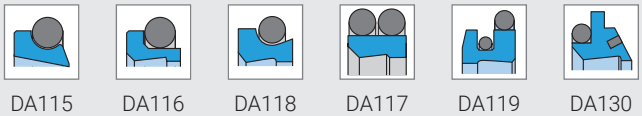
Wiper with elastomer preload elements

Applications

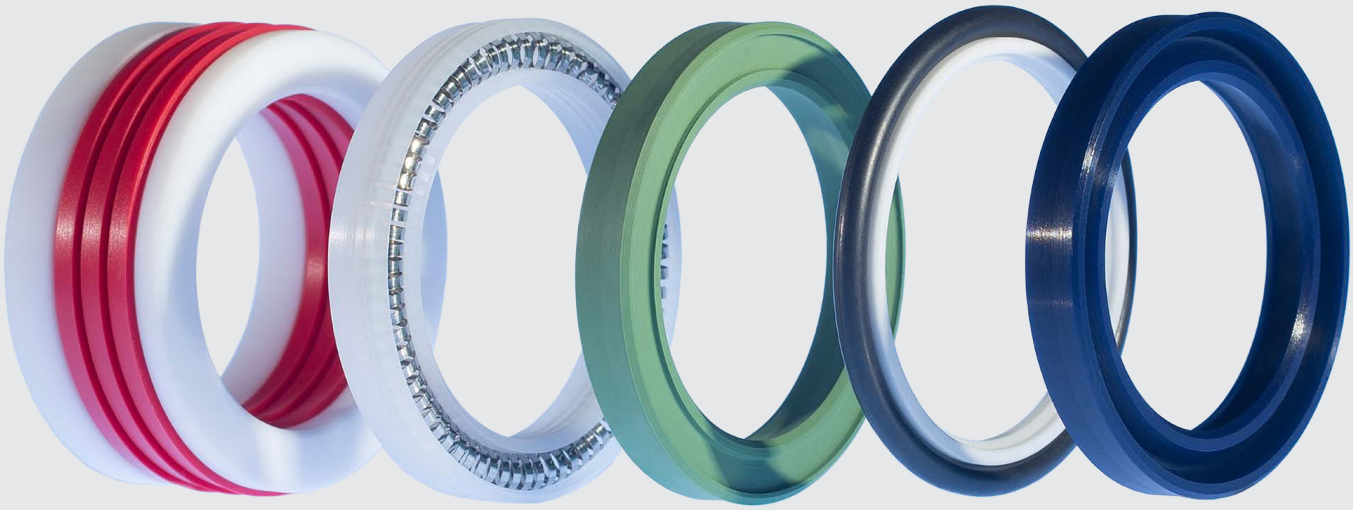
- Suitable for all areas of hydraulics and pneumatics
- Single-acting: for the removal of dirt and moisture
- Double-acting: to additionally reduce the discharge of lubricating film
- Low friction
- Large selection of materials
- even the largest diameters, intermediate sizes and inch dimensions can be realized
- Installation in closed grooves from diameter 20 mm possible
- Double wipers must be matched to the sealing system used
- Heavy-duty- wipers e.g. DA130 available

Sliding speeds	up to 15 m/s
Temperature range	-55 to +280 °C (depending on material)





Rod Seals



The design of a rod seal or piston rod seal is crucial for the function of the entire assembly. A rod seal is internally sealing and is usually tied into a closed groove. Some profiles require a split installation groove. There is a wide range of profiles on the market - we can assist you in making the best choice.

Standard profiles

The standard profiles shown here are seals that represent the state of the art. We manufacture these standard seals ourselves or supply them as molded parts from certified partners for all required groove dimensions from a wide range of materials. Even inch and intermediate dimensions as well as diameters up to 3000 mm can be realized.

Depending on the quantity, the material and your require-ments, we offer gaskets from the appropriate manufacturing process - all from a single source!

A complete overview and further information can also be found in the following categories:

- Grooved rings and roof collars
- Rod seals with elastomer pretensioning elements

Selecting the right profile

The more information you provide , the more precisely we can tailor the sealing system to your needs.

The following criteria are important for selecting the right profile and the ideal material:

- Installation space
- Double or single-acting
- Pressure range
- Temperature range
- Medium
- Stroke speed
- Counterface
- Mounting option
- Friction behavior
- Stick-slip behavior
- Tightness
- Expected service life
- Price
- Availability

You can find more information
dicht.de/en/sealing-technology/rod-seals/

Rod seals – U-Cups and chevron seal sets for rod seals

Application U-Cups

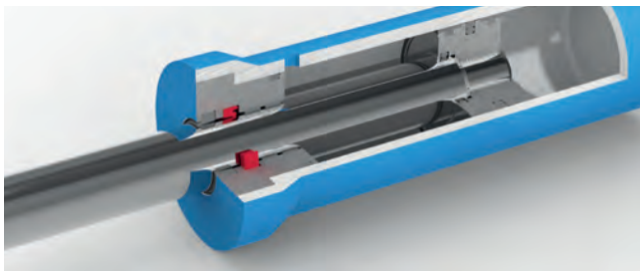
- High tightness
- For all areas of hydraulics and pneumatics
- Single-acting sealing profile
- Installation in closed grooves possible
- Many dimensions available as molded parts
- Inch and intermediate dimensions available

Application chevron seal sets for rod seals

- High tightness
- Single-acting sealing element
- Available in slotted design
- Areas of application: Mining, presses, special machine construction
- Adjustable if required

Pressure range	up to 400 bar*
Sliding speeds	up to 0.5 m/s
Temperature range	-55 to +220 °C (depending on material)

*Special solutions for higher pressures up to 700 bar can be realized

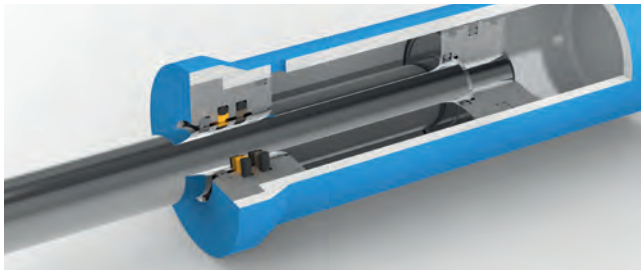


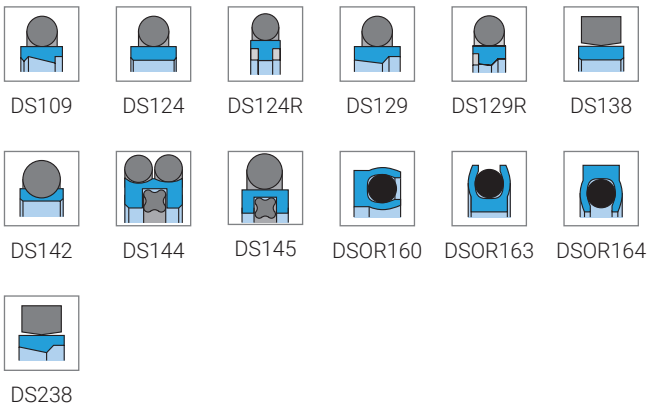
Rod seals elastomer preload elements

Applications

- Single and double-acting sealing elements
- Universal use
- Low friction
- Low stick-slip effect
- High sliding speeds possible
- Small installation space possible
- Expected service life
- Large selection of materials
- Inch and intermediate sizes as well as largest diameters up to 3000 mm can be realized

Pressure range	up to 600 bar
Sliding speeds	up to 15 m/s
Temperature range	-55 to +280 °C (depending on material)





Piston seals

The design of a piston seal is crucial for the function of the entire assembly. There is a wide range of profiles on the market - we help our customers and interested parties to make the ideal selection.

Standard profiles

The standard profiles shown here are seals that represent the state of the art. We manufacture these standard seals ourselves or supply them as molded parts from certified partners for all required groove dimensions from a wide range of materials. Inch and intermediate sizes, but also the largest diameters up to 3000 mm can be realized.

Depending on the quantity, the material and your requirements, we offer seals from the appropriate manufacturing process - all from a single source!

A complete overview and further information can also be found in the following categories:

- Grooved rings and roof collars
- Compact piston seals
- Rod seals with elastomer pretensioning elements

Selecting the right profile

The more information available the better the sealing system can be adapted to the application.

The following criteria are important for selecting the right profile and the ideal material:

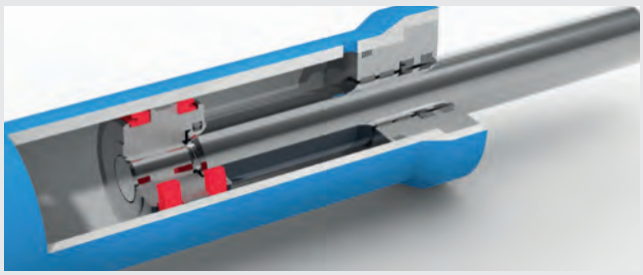
- Installation space
- Double or single-acting
- Pressure range
- Temperature range
- Medium
- Stroke speed
- Counterface
- Mounting option
- Friction behavior
- Stick-slip behavior
- Tightness
- Expected service life
- Price
- Availability

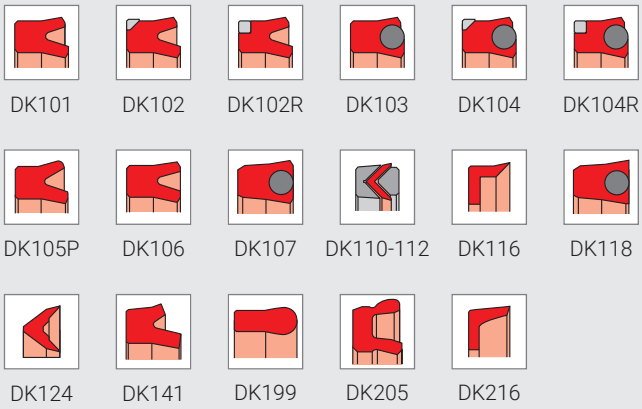
You can find more information
dicht.de/en/sealing-technology/piston-seals/

Piston seals – U-Cups and chevron seal sets for piston seals

Application U-Cups

- High tightness
- For all areas of hydraulics and pneumatics
- Single-acting sealing profile
- Installation in closed grooves possible
- Many dimensions available as molded parts
- Inch and intermediate dimensions available





Chevron seal sets for piston seals

- High tightness
- Single-acting sealing element
- Available in slotted design
- Areas of application: Mining, presses, special machine construction
- Adjustable if required

Pressure range	up to 400 bar*
Sliding speeds	up to 0.5 m/s
Temperature range	-55 to +220 °C (depending on material)

*Special solutions for higher pressures up to 700 bar can be realized

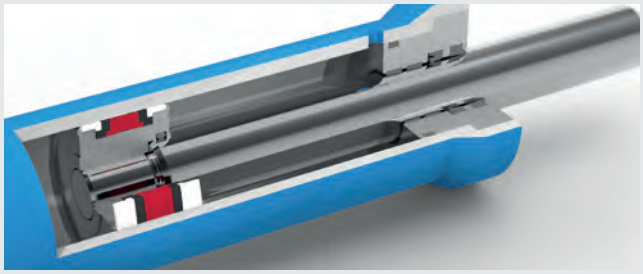
Compact piston seals

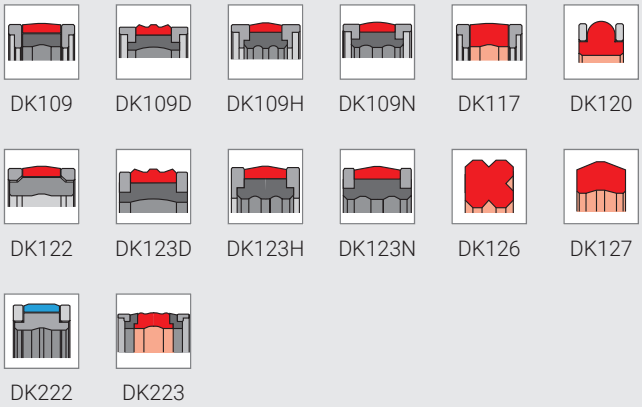
Applications

The compact piston seal is a double-acting sealing and guiding element. It is available in various designs and is ideally suited for a wide range of applications. In principle:

- Universal use with standard cylinders
- Cost-effective with standard dimensions
- Compact installation space

Pressure range	up to 400 bar
Sliding speeds	up to 0.5 m/s
Temperature range	-55 to +220 °C (depending on material)



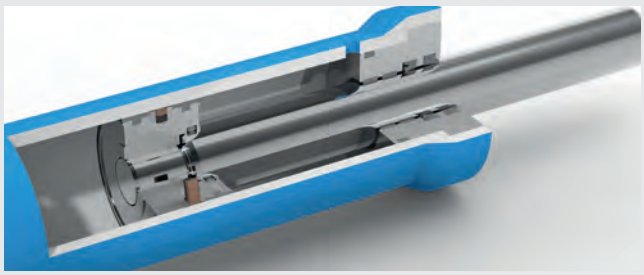


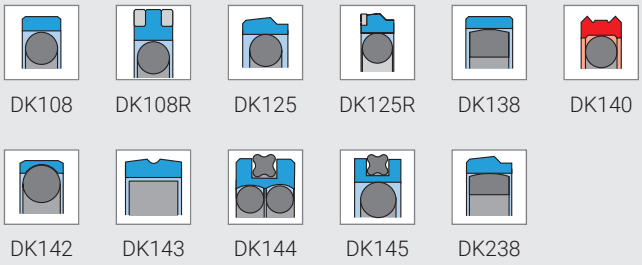
Piston seals elastomer preload elements

Application

- Single-acting and double-acting sealing elements
- Universal application
- Large selection of materials
- Low friction
- High sliding speeds
- No stick-slip effect
- Small installation space
- Expected service life
- Inch and intermediate sizes up to diameter 3000 mm can be realized

Pressure range	up to 600 bar
Sliding speeds	up to 15 m/s
Temperature range	-55 to +280 °C (depending on material)





Delivery within one day

Very short delivery times are particularly important in the production of seals for large diameters, as machine downtimes can be very cost-intensive. The availability of semi-finished products in the larger diameter range cannot always be guaranteed at short notice. An alternative is the use of sheet material, from which we can produce round blanks for gasket production using our portal milling machine with a machining area of 2 x 2 meters. If delivery time is a priority, this step can significantly reduce machine downtime, and we can produce and deliver replacement gaskets within a day if necessary.

Sealing kits

Assembled sealing kits according to customer requirements

The sealing of an assembly or a hydraulic cylinder can involve a large number of components. In many cases, a pre-assembled sealing kit can bring significant advantages in assembly and, above all, in the spare parts business. We assemble seal kits according to customer specifications with all the necessary components. On request, we can also supplement the seal kits with balls, springs, screw fittings and much more.

Advantages of seal kits during initial assembly

The use of sealing kits during initial assembly ensures that all components for the sealing system are reliably available at the workplace. The preparation times for removing the individual components from storage can be significantly reduced and no components are forgotten. In addition, it prevents components that cannot be distinguished externally from being mixed up at the workplace. For example, O-rings made of FPM and NBR in the same color are difficult to tell apart visually. At Hänssler, we prepare sealing sets with an automatic packaging machine and thus avoid picking errors and missing parts.

Advantages of sealing sets in the spare parts business

If complete seal kits are available for overhauls, the use of alternative products without approval is avoided. It also ensures that all components are available for use and that the replacement of individual parts is not forgotten during assembly. By providing complete sets, the warranty of your assemblies can be secured after the overhaul. We pack sealing kits in UV-protected films, which guarantees the durability of elastomer parts in particular (e.g. NBR parts stored openly age quite quickly due to direct UV rays).

Individual packaging of sealing kits

We pack and print sealing kits using an automatic packaging machine. Important information such as batch number, date of manufacture and, of course, internal customer information such as designation and article number are printed and also displayed in the form of barcodes. Batch tracking is therefore possible at any time and revision statuses can always be traced.

The data can be conveniently recorded via the respective barcodes during assembly or in logistics. We always add our logo to labels, however, we can always print a customer logo instead, or completely dispense with a corresponding imprint. This has particular advantages in logistics and in the spare parts business. Repackaging is therefore no longer necessary and it is ensured that original parts are used.

For more information, visit
dicht.de/en/sealing-technology/sealing-sets/

Guide rings

Piston and rod guide rings absorb lateral forces and prevent metallic contact between the sliding components. The additional element separates the “sealing” and “guiding” functions. In contrast to metal guides, plastic guide rings are a cost-effective solution, reduce friction and wear and in many cases do not require lubrication. Further information can also be found in the „Guide elements“ chapter and in the „Plastics technology“ brochure.

Standard profiles

The standard profiles shown here are guide rings that represent the state of the art. We manufacture these guide rings ourselves for all required groove dimensions from a variety of materials. In addition to turned and injection-molded guide rings, we supply many dimensions as yard goods or ready-cut.

A complete overview and further information can be found in the following categories:

- Rectangular shaped guide rings
- L-shaped guide rings
- T-shaped guide rings
- U-shaped guide rings

Selecting the right profile

The more information available , the better the guide element can be adapted to the application.

The following criteria are important for selecting the right profile and the optimal material:

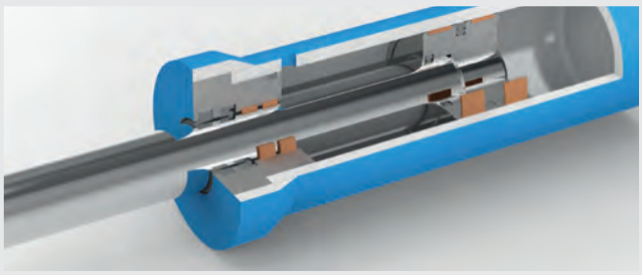
- Installation space
- Lateral forces
- Temperature range
- Medium
- Rotation / swivel speed
- Counterface
- Installation option
- Friction behavior
- Expected service life
- Price
- Availability

For more information, visit
dicht.de/en/sealing-technology/guide-rings/

Rectangular shaped guide rings

Application

- Standard
- Cost-effective
- Depending on the material, also available by the metre or pre-cut
- Low friction
- Easy installation in closed grooves
- High loads
- Also available with stepped cut



FRK FRK-LN FRK-MN FRK-SN

FRS FRS-LN FRS-MN FRS-SN

Brief description of the designations:

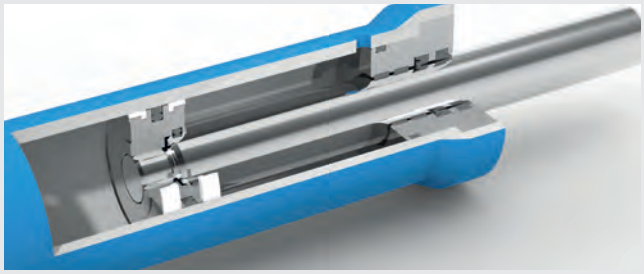
FR = Guide ring
K = Piston
S = Rod

LN = Linear groove
MN = Center groove
SN = Spiral groove

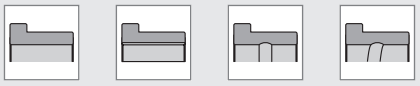
L-shaped guide rings

Application

- Cost-effective
- Low friction
- Easy mounting in closed grooves
- High loads
- Small axial installation space



FLK FLK-LN FLK-MN FLK-SN



FLS FLS-LN FLS-MN FLS-SN

Brief description of the designations

FR = Guide ring
L = L-shape

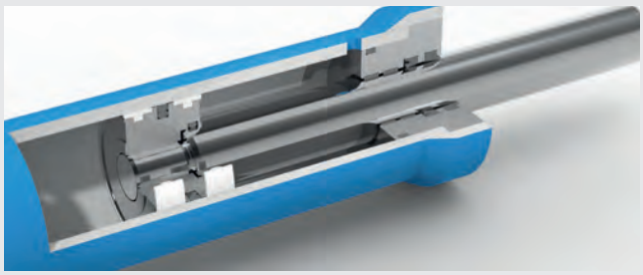
K = Piston
S = Rod

LN = Linear groove
MN = Center groove
SN = Spiral groove

T-shaped guide rings

Application

- Standard
- Cost-effective
- Made of POM many dimensions available as molded parts
- Low friction
- Easy assembly in closed grooves
- High loads
- Small axial installation space, therefore short piston designs possible



FTK FTK-LN FTK-MN FTK-SN

FTS FTS-LN FTS-MN FTS-SN

Brief description of the designations

FR = Guide ring
T = T-shape

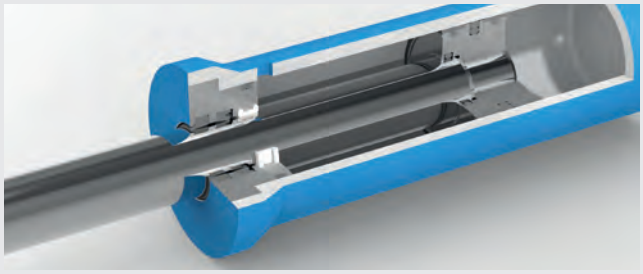
K = Piston
S = Rod

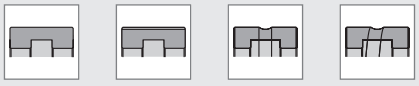
LN = Linear groove
MN = Center groove
SN = Spiral groove

U-shaped guide rings

Application

- Low friction
- Easy mounting in closed grooves
- High loads
- Small axial installation space, therefore short piston designs possible





FUK FUK-LN FUK-MN FUK-SN

FUS FUS-LN FUS-MN FUS-SN

Brief description of the designations

FR = Guide ring
U = U-shape

K = Piston
S = Rod

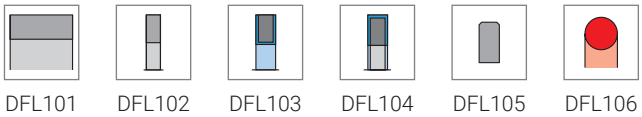
LN = Linear groove
MN = Center groove
SN = Spiral groove

Flat seals

Flat gaskets are typically used for static sealing applications.. We manufacture and supply flat seals for a wide range of applications. Whether produced by cutting, punching, water jet cutting, injection molding or casting - we can respond to any customer requirement.

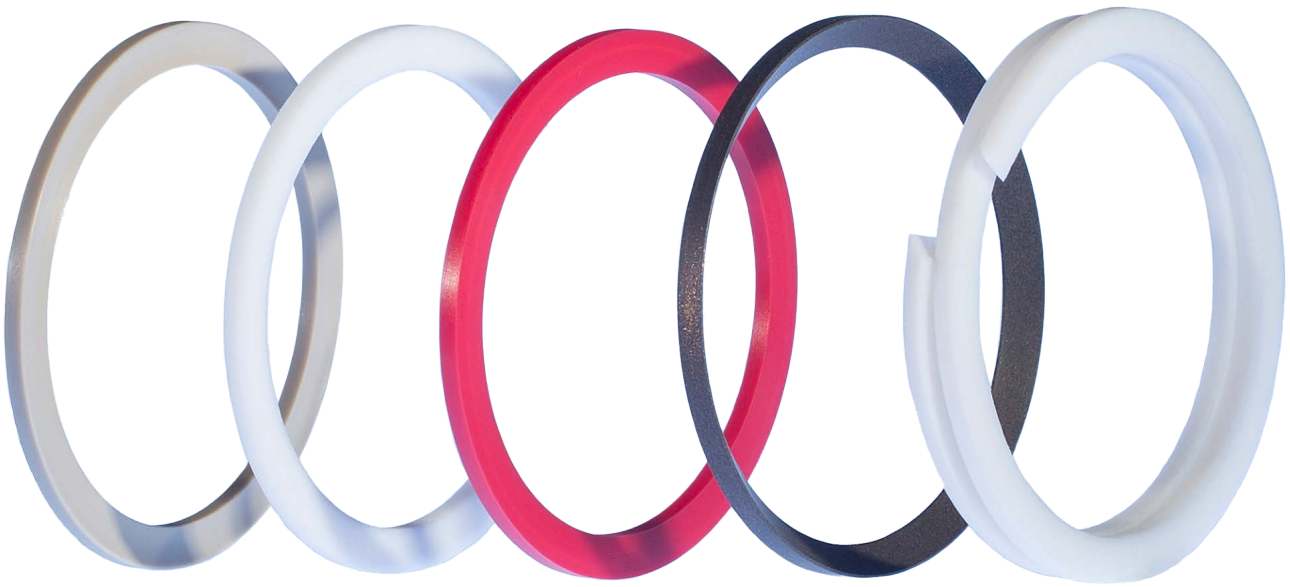
Depending on the quantity and features , we also supply molded parts from a wide range of materials from certified trading partners in Europe.

Most of the profiles shown are also available as linear sealing strips. Here, the transition between sealing technology and plastic construction parts is fluid.



For more information, visit
dicht.de/en/sealing-technology/flat-seals/

Back-up rings

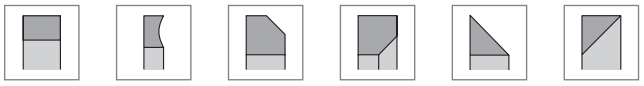


Back-up rings increase the compressive strength of a sealing system. An active back-up ring is pressed axially and radially by the seal in the direction of the sealing gap and covers it. A passive back-up ring lies parallel to the seal, is axially pressurized, should also cover the sealing gap and prevent the sealing material from extruding into the sealing gap. The use of back-up rings is recommended for static O-ring seals from 200 bar with pulsating pressure or if a pressure-dependent sealing gap change is to be expected.

Standard profiles

The standard profiles shown here are support rings that represent the state of the art. We manufacture these support rings in Mannheim for all required groove dimensions from a variety of materials up to a diameter of 3000 mm.

Back-up rings are usually installed together with O-rings. For higher pressure ranges, however, piston seals and rod seals with back-up rings are increasingly being used.



DST108 DST109 DST110 DST111 DST112 DST113

DST114 DST201 DST202

Selecting the right profile

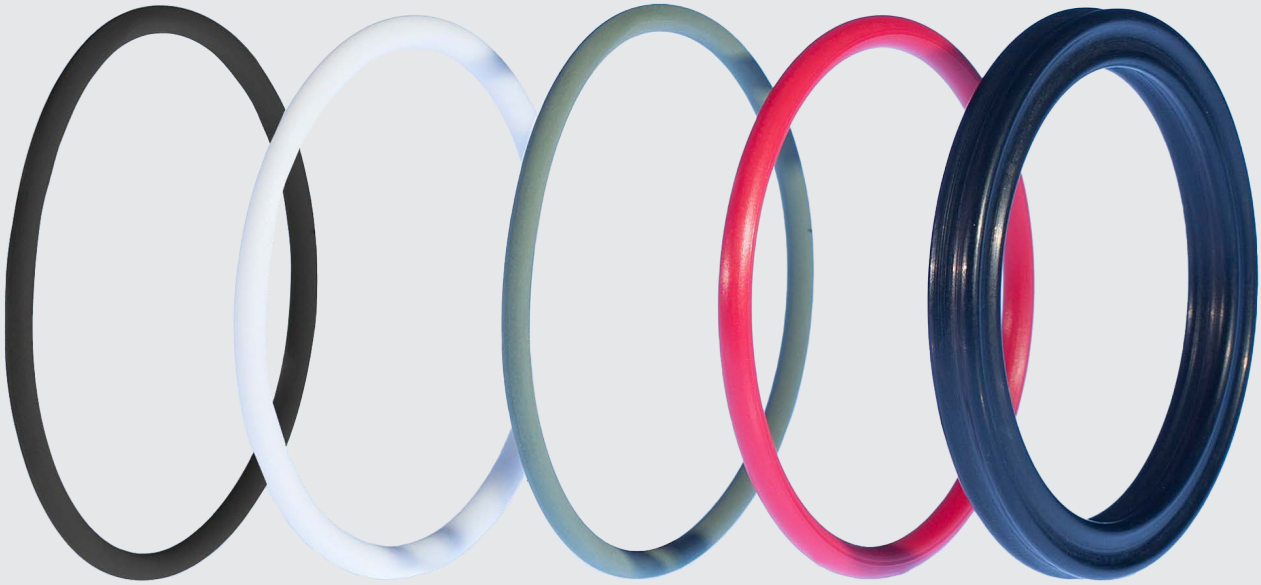
The more information available , the better the sealing system can be adapted to the application.

The following criteria are important for selecting the right profile and the optimum material:

- Installation space
- Double or single-acting
- Internal or external sealing
- Pressure range
- Temperature range
- Medium
- Counterface
- Mounting option
- Friction behavior
- Tightness
- Expected service life
- Price
- Availability

You can find more information
dicht.de/en/sealing-technology/back-up-rings/

O-rings / X-rings



O-rings are the most common, but also the simplest sealing elements. They are used in static and dynamic applications in all areas of mechanical and plant engineering. They are used as a preload element in many sealing systems. X-rings offer technical advantages over O-rings in certain applications. You can find more information in our technical article on page 18..

Standard profiles

O-rings and X-rings are standard parts, most of which we obtain from our certified partners. However, we also manufacture turned variants for special dimensions and from special materials. We keep a large stock in order to be able to react flexibly to customer requirements

OR XR OR-SO OR-SU OR-S OR-SW

Selecting the right O-ring / X-ring

The more information available , the better the sealing system can be adapted to the application.

The following criteria are important for selecting the right O-ring and the optimal material:

- Installation space
- Pressure range
- Temperature range
- Medium
- Stroke speed
- Counterface
- Friction behavior
- Tightness
- Price
- Availability

For more information, visit
dicht.de/en/sealing-technology/o-rings/

PROFESSIONAL JOURNAL

O-RINGS MADE OF PTFE

We manufacture O-rings made of PTFE and PTFE compounds for process engineering systems in various industries..

PTFE O-rings are harder and behave differently to elastomer O-rings. Therefore, they require higher contact pressures. This can be counteracted by using slotted/pierced ring designs. The O-ring must be installed in such a way that the pressure of the medium causes the slot to expand.

Properties of PTFE

- Resistant to almost all organic and inorganic chemicals (except elemental fluorine under pressure or at high temperatures, fluorine-halogen compounds and alkali metal melts)
- Application temperature -200 °C to +260 °C
- Coefficient of friction approx. 0.03
- Pronounced anti-adhesive behavior
- No water absorption
- Low thermal conductivity

FEP- / PFA-coated O-rings

There are numerous applications in which the use of conventional elastomers is ruled out. Aggressive chemicals or extreme temperatures can destroy conventional O-rings. FEP- / PFA-coated O-rings can be used wherever the chemical resistance of an elastomer is not sufficient.

Here, FEP (fluorinated ethylene propylene) or PFA (perfluoroalkoxy copolymer) provides the chemical resistance, while the elastomer core (e.g. made of FPM or silicone) provides the elasticity.

PTFE seals are not an alternative in this case. Although PTFE also has excellent media resistance, this is not combined with elastic properties.

Shrouded O-rings should not be used for dynamic applications in contact with abrasive media, under the influence of high (back) pressure and if the O-ring is subject to high elongation. Jacketed O-rings should only be used for static applications.

Profile gaskets

Customer-specific according to drawing or sample

Complex requirements demand sealing concepts that go beyond the standard, catalogs or the state of the art. Thanks to our flexible production, we can manufacture almost any sealing profile from a wide range of materials. We follow your specifications or take the desired profile from a sample. We are also happy to support you in the development of a custom profile seal.

Development of profile gaskets for customer-specific applications

We are happy to support you in developing the optimal (gasket) profile. In a direct exchange, we record operating conditions such as temperature, media contact, pressure, speeds and installation conditions. We use this information to develop the optimum profile and select the perfect material. Direct data exchange of CAD data creates transparency. You can transfer the seals directly into your design and thus achieve complete documentation.

Turned profile gaskets as a replacement for extruded profiles

Many gasket profiles - especially for large diameters or linear applications - are manufactured using extrusion. This manufacturing process requires a costly forming tool and long delivery times. You can save these tooling costs by producing the gaskets by machining. In addition, significantly shorter delivery times can be realized. Turned gaskets have no disadvantages in terms of quality - on the contrary! They can be designed to be much more delicate and precise.
Another application is the direct replacement of existing extruded sealing profiles that your previous supplier can no longer supply or if the required tool is defective.

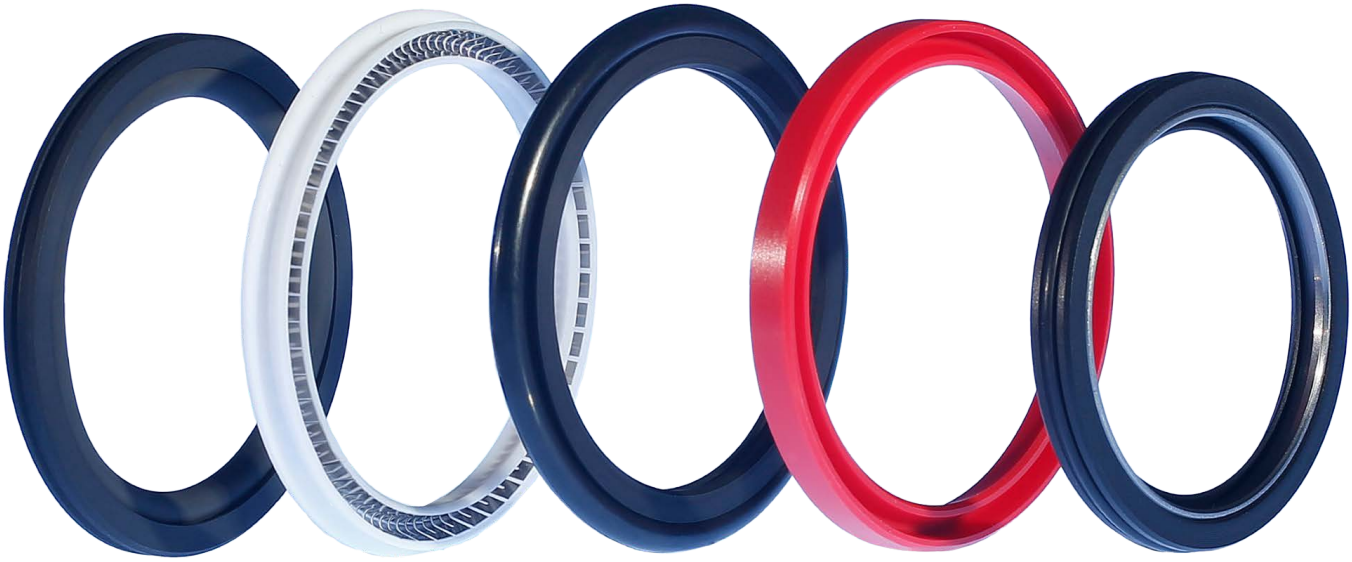
Profile gaskets made from a wide range of materials and dimensions

At Hänssler, we can manufacture turned gaskets from a wide range of materials. We will find the right material for your application - whether elastomer (e.g. NBR, FPM, PU, EPDM, silicone), thermoplastic with or without preload element (e.g. POM, PA, PEEK, PE) or PTFE compounds (PTFE, PTFE TFM, PTFE carbon, PTFE bronze and many more).
A large number of semi-finished products in stock in all dimensions helps to keep delivery times flexible and as short as possible.

Our production is designed to manufacture gaskets in any dimension. From the smallest gaskets in the millimeter range to 1.5 meters and more in diameter, everything is possible.

For more information, visit
dicht.de/en/sealing-technology/individual-profiles/

Shaft seals & rotary seals



In addition to the complete range of shapes and dimensions of radial shaft seals to DIN 3760/3761, we also supply all types of axial shaft seals (V-rings) and shaft sleeves. Seals for rotary distributors, swivel drives, hydraulic motors and tool spindles of all kinds are manufactured for rotary/swivel movements.

Standard profiles

The standard profiles shown here are seals that represent the state of the art. We manufacture these standard gaskets ourselves or supply them as molded parts from verified partners for all required groove dimensions from a wide range of materials.

Depending on the quantity, the material and your requirements, we can offer you gaskets from the appropriate manufacturing process.

A complete overview and further information can be found in the following categories:

- Shaft seals
- Rotary seals (compact, axial and lip seal profiles)
- Rotary seals with elements

Selecting the right profile

The more information available , the better the sealing system can be adapted to the application.

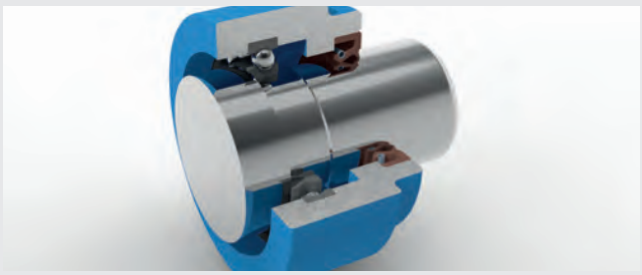
The following criteria are important for selecting the right profile and the optimal material:

- Installation space
- Double or single-acting
- Pressure range
- Temperature range
- Medium
- Rotation/swivel speed
- Counterface
- Mounting option
- Friction behavior
- Tightness
- Expected service life
- Price
- Availability

For more information, visit
dicht.de/en/sealing-technology/radial-shaft-seals/

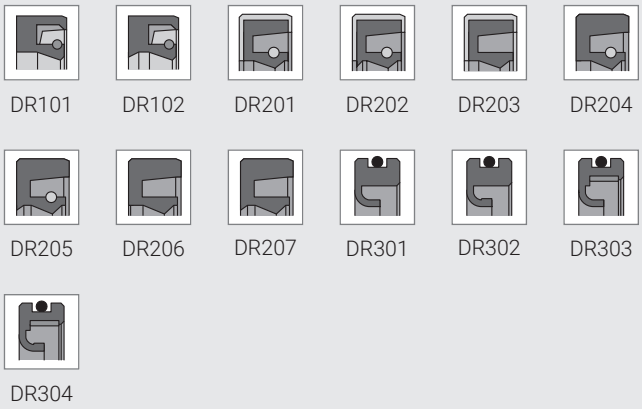
Shaft seals

The profiles shown here are radial shaft seals that can be manufactured from different materials. We also supply the complete range of rotary shaft seals in accordance with all existing standards. The following options are available for in-house production:



Application

- Universal use
- Transmission
- High sliding speed
- Low pressures
- Special solutions for extreme sliding speeds
- Low friction



Material selection for preload rings

- Steel, stainless steel
- Plastic
- Aluminum
- Gunmetal

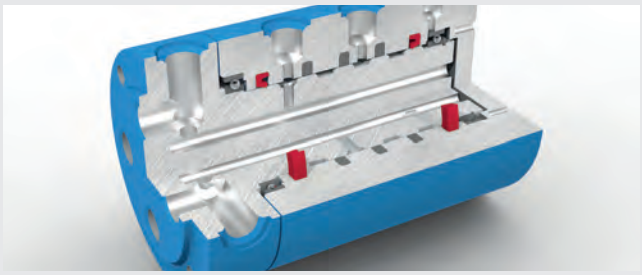
Material selection for springs

- Steel, stainless steel
- Special materials

Pressure range	up to 10 bar
Sliding speeds	up to 30 m/s
Temperature range	-40 to +220 °C (depending on material)

Rotary seals (compact, axial and grooved ring profiles)

Numerous applications cannot be sealed with rotary shaft seals. The following applications require special rotary seals.



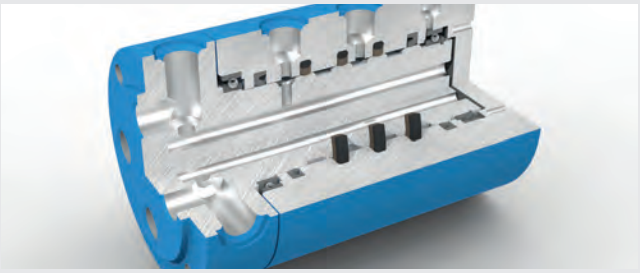
Application

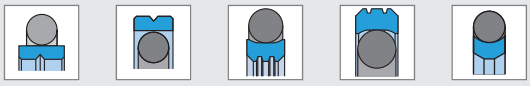
- Rotary joints
- Rotary indexing tables
- Swivel devices
- Mounting in closed grooves
- Many dimensions available as molded parts
- Small installation space
- Low friction
- Single- and double-acting use

Pressure range	up to 200 bar
Sliding speeds	up to 30 m/s
Temperature range	-55 to +220 °C (depending on material)

Rotary seals preloaded with elastomer element

Rotary seals with a preload element consist of an outer ring, e.g. made of PTFE, PTFE compound, PE, PU, PA and an O-ring or rectangular ring. The outer rings are usually turned parts and can therefore be manufactured in a very wide range of dimensions.





DR110 DR111 DR115 DR116 DR270

Application

- Rotary joints
- Rotary indexing tables
- Swivel devices
- Special machine construction
- Single-acting and double-acting use
- Assembly in closed grooves from diameter 20 mm
- High pressures
- Low sliding speeds

Pressure range	up to 300 bar
Sliding speeds	up to 2 m/s
Temperature range	-55 to +220 °C (depending on material)

Conformities without wasting time

It is advisable to check the requirements carefully, especially if the items are intended for resale. If possible, please let us know at the time of your inquiry which conformities or certificates must be provided. In this way, your Hänssler customer advisor, in cooperation with the purchasing department, can find compliant finished products and semi-finished products for further processing. Any delivery times for special materials can already be taken into account when submitting a quotation.

The required documents will then be available to you before or at the latest on delivery. This enables a smooth and quick resale. Occasionally, certain conformities are only required for items with a particularly wide range of applications when they are resold. Our experts will be happy to support you in AfterSale with the subsequent procurement of documents, look for solutions and try to make everything possible.

PROFESSIONAL JOURNAL

CONFORMITIES & APPROVALS

In addition to classic properties such as dimensional accuracy, material, temperature, pressure or media resistance, certificates and accompanying documents are playing an increasingly important role.

In addition to classic properties such as dimensional accuracy, material, temperature, pressure or media resistance, certificates and accompanying documents are playing an increasingly important role.
The number of national and international regulations is constantly growing. New standards are being established in every industry and new regulations are regularly issued in the various trading zones that need to be implemented. If a product does not meet the specified guidelines, or if the associated documents are not available, it is practically unsaleable. At Hänssler, we are committed to keeping pace with these developments and providing our customers with comprehensive information and support.

Internally, we have a trained compliance officer and we use software solutions to ensure a seamless flow of information and precise traceability of all products.

Material compliance

Regulations such as REACH and RoHS, the elimination of conflict minerals under the Dodd Frank Act or compliance with California Proposition 65 are required for countless products across all industries and materials. Safety along the supply chain is the be-all and end-all, regardless of whether you want to resell merchandise to demanding customers or require components for your own production.

We work exclusively with reputable suppliers who have been operating successfully on the market for many years. They provide the certificates that our material compliance experts need to be able to issue your required certificates reliably and promptly.

Application-related approvals

These often relate to material properties, compositions, test methods or manufacturing processes. In addition, the requirements are often industry-specific.

FDA approvals and products in accordance with EU 10/2011 or EC 1935/2004 Regulation are particularly in demand in the food sector. For drinking water applications, W270 and the KTW regulation are mandatory.

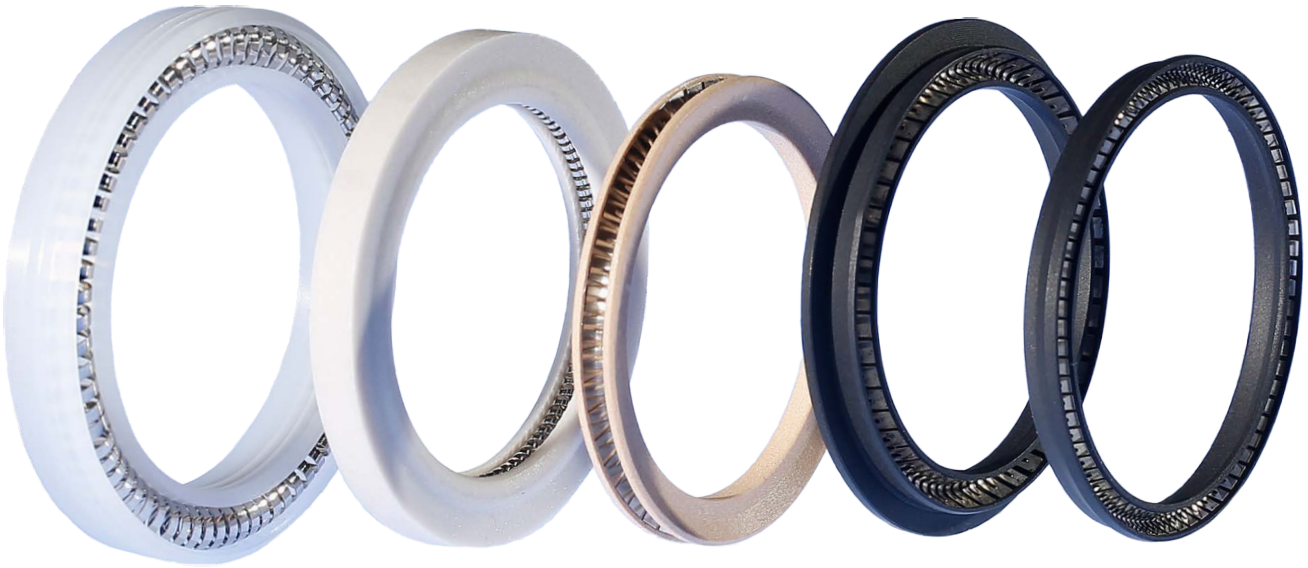
Medical grade materials with USP approvals are required in medical and pharmaceutical technology, while NORSOK has established itself as the standard in the petroleum industry. Benefit from our extensive experience and let us advise you.

Foreign trade law documents

In a broader sense, conformity is also often required here. Once the products have been manufactured, they often have to be exported to third countries with the correct new customs tariff numbers.

This is where our export team can support you. In addition to customs clearance and the organization of overseas shipments, we can also for example take care of checking dual-use regulations or preparing technical documentation for exports to the country of your choice.

Spring preloaded seals



Piston, rod and rotary seals can also be designed in spring-loaded versions. These seals are particularly suitable for aggressive media and high temperatures. Fillings with silicone, especially for the food industry and medical technology, are also interesting applications. To prevent deposits and enable optimum cleaning, the spring chamber is filled with silicone.

Standard profiles

The standard profiles shown here are seals that represent the state of the art.

We manufacture these standard seals for all required groove dimensions from a wide range of materials. We do not have to limit ourselves to the standard dimensions of the sealing industry. In a diameter range from a few millimeters to 3000 mm, we supply everything from a single source.

A complete overview and further information can also be found in the following categories:

- Preloaded by meander spring
- Pretensioned by supporting coil spring

Selecting the right profile

The more information available , the better the sealing system can be adapted to the application.

The following criteria are important for selecting the right profile and the optimal material:

- Installation space
- Pressure range
- Temperature range
- Medium
- Stroke / rotation / swivel speed
- Counterface
- Mounting option
- Friction behavior
- Tightness
- Expected service life
- Price
- Availability

For more information, visit
dicht.de/en/sealing-technology/spring-loaded-seals/

Preloaded with meander spring

Seals preloaded with a meander spring are primarily used in highly dynamic applications, as the spring design enables a high degree of deformation with minimum load.

Application

- Aggressive media
- High temperatures
- High sliding speed
- Low friction
- For the food industry
- Oil and gas applications

Selection of materials for springs

- Stainless steel
- Special materials (Elgiloy etc.)

Pressure range	up to 200 bar (special applications up to 400 bar)
Sliding speeds	up to 30 m/s
Temperature range	-40 to +280 °C (depending on material)


DK119


DK139


DK153


DK154


DS119


DS154


DR117


DR118


DR119


DR121

Preloaded by supporting coil spring

Seals preloaded with support coil springs are often used in static and lifting applications where the surrounding tolerances are relatively large or high preload forces are required..

Application

- Aggressive media
- High temperatures
- High sliding speed
- Low friction
- For the food industry
- Oil and gas applications

Selection of materials for springs

- Stainless steel
- Special materials (Elgiloy etc.)

Pressure range	up to 200 bar (special applications up to 400 bar)
Sliding speeds	up to 30 m/s
Temperature range	-55 to +280 °C (depending on material)


DK150


DK151


DKFH162


DKFH165


DKFH166


DS118


DS151


DSFH160


DSFH161


DSFH162


DAXFH163


DAXFH164

O-ring measuring tower

Our O-ring measuring tower allow quick and easy measurement and identification of O-rings and seals (diameter determination). The round body to be measured is simply slid onto the tower until the diameter is reached on which it is just firmly seated everywhere. The O-ring measuring towers are made of POM and are available in six diameter ranges - also as a set.

Messturm 1
Ø 5 - 64 mm

Messturm 2
Ø 65 - 104 mm

Messturm 3
Ø 105 - 154 mm

Messturm 4
Ø 155 - 200 mm

Messturm 5
Ø 201 - 250 mm

Messturm 6
Ø 251 - 300 mm

Set 1 – measuring tower 1 to 6

Set 2 – measuring tower 1 to 4

Set 3 – measuring tower 5 and 6

If you are interested in our measuring cones, please contact us at: **haenssler@dicht.de**

Mehr Informationen finden Sie unter **dicht.de/en/sealing-technology/o-ring-measuring-towers/**

PROFESSIONAL JOURNAL

HÄNSSLER PRODUCTS IN THE DRINKING WATER SECTOR

Drinking water from the tap is one of the best controlled foods. The requirements for this cool water are high. They are regulated by the German Drinking Water Ordinance (TrinkwV). To comply, not only the water itself, but also the components in which it is transported must meet the highest standards.

Compliance with the "Plastics in drinking water" guideline (KTW for short) is no longer sufficient on its own. In addition, a test must be carried out in accordance with worksheet W270 of the German Technical and Scientific Association for Gas and Water (DVGW e. V.).

Doubly safe: W270 and KTW "A"

A valid drinking water approval consists of two certificates: DVGW-W270 and the KTW "A". These must be certified by an accredited certifier by means of a test certificate. The certificates are generally only valid for five years. However, if the product or the production process is changed during this time, they expire immediately.

The subtle difference: drinking water and food

The terms food conformity and drinking water conformity are often blurred. However, while food-compliant seals with FDA or EU 10/2011 certification are often sufficient in beverage production plants, for example, the requirements in the drinking water sector are significantly higher.

Special long-term tests that last several months are necessary here, in which microbial growth is observed and controlled, among other things.

Hänssler services in the area of drinking water conformity

On request, a large part of our product portfolio can be made drinking water compliant. We procure the appropriate materials, process them with the utmost care and precision and obtain the necessary test certificates for you. To avoid delays and misunderstandings, please make a note of which conformities are required when you make your inquiry. As a rule, you will receive the certificates upon delivery of the goods at the latest.

We can guide you through the compliance jungle!

Our team of engineers, purchasers, technical sales staff and trained material compliance officers are familiar with the current regulations in many areas. We will find compliant semi-finished products and merchandise according to your requirements, obtain the necessary documents or issue them for you. You can find more information on our compliance services on page 23.

Development partner

for plastic parts and seals - our range of services

We prefer to be involved in development right from the start. Together with our customers, we design the optimum plastic or sealing element. Our many years of expertise in the processing of plastics are incorporated into every step of the process. Thus, the function, quality and price-performance ratio of the product to be developed is optimized right from the start. This is reflected in every area, and every process is optimized with the ultimate goal of customer satisfaction in mind.

Order processing

Every customer is looked after by a dedicated sales employee who is responsible for all customer communication, quotations and order processing. This approach guarantees short response times, optimum communication and a long-term, binding business relationship. Supported by state-of-the-art IT solutions, every step is perfectly documented. This enables us to achieve maximum flexibility and quality in all areas.

Development of new solutions

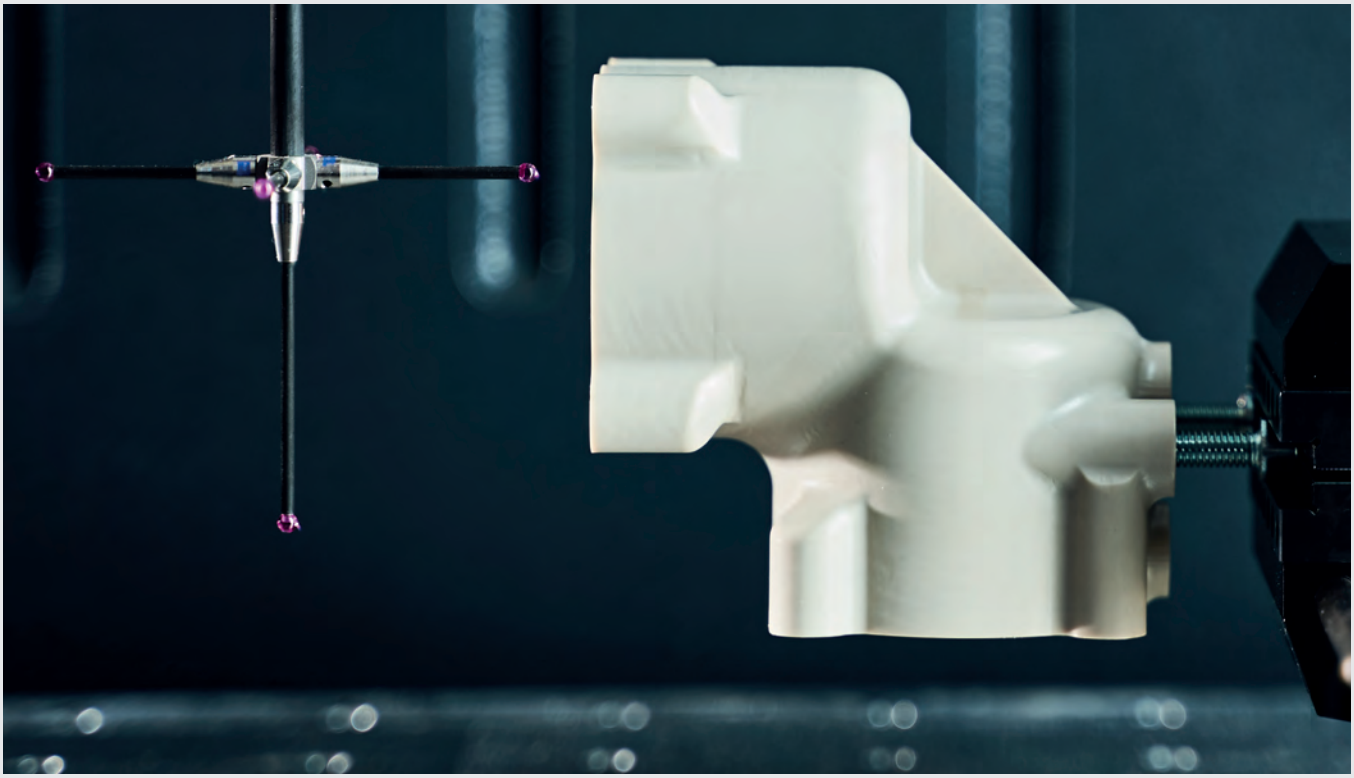
Our broad range of experience allows us to provide comprehensive advice. The design and tolerance of plastic and elastomer parts in particular requires special expertise in order to optimize the manufacturing process, ensure process reliability and reduce costs. We work with state-of-the-art design and development tools. We can support you as a development partner in the planning and development of your product. Our development team will work with you to find solutions for your tasks and will provide help to significantly shorten development processes.

Prototype construction

We have the technical facilities to produce cost-effective prototypes in short delivery times. The short path to the first finished part is used for rapid functional testing and, if necessary, rapid further development. For prototype production, we use our machining centers, program our 3D printers or use our vacuum casting capabilities.

Single item or small quantities

Apart from mass production, we specialize in designing niche products and technically sophisticated special components, which we manufacture in small to medium series. For some time now, additive manufacturing has been offering completely new ways of doing this. With our constantly expanding machinery and further training in this area, we can reproduce almost any manufacturing process in-house. This means that we can accompany you all the way and you do not need to change suppliers between development and series production.



Series production

We have specialized in processing only plastics on our machines. This strategy allows us to optimize our manufacturing capabilities and means we do not have to make any compromises. We use special tools, clamping devices and fixtures that have been developed exclusively for plastics processing, mainly by us. Thanks to the optimal equipment, we guarantee short reaction times in the highest quality at low costs. State-of-the-art automation and IT solutions help us to produce competitively at the highest level in Mannheim.

Logistics and shipping

In the logistics area, we focus on traceability by completely digitizing the processes. Every delivery that leaves our company is 100% traceable and we can identify the batch delivered with the date of manufacture at any time. Each item is scanned upon removal and dispatch and is automatically provided with a label on which all information is made available. Customized labels are also possible so that our customers no longer need to repackage their products.

Quality assurance

„We never want to be the biggest, but always the best!“ This motto is of course particularly important in the area of quality assurance. We achieve our high quality standards with lean, networked and clearly defined processes. Just like our products, we also critically review all processes time and again in order to identify errors before they occur. We are not only ISO 9001 (quality) certified, but also design our processes in accordance with ISO 14001 (environment) and ISO 50001 (energy).

DIN EN ISO 9001 ZERTIFIKAT

DIN EN ISO 14001 ZERTIFIKAT

DIN EN ISO 50001 ZERTIFIKAT

For more information, visit
dicht.de/en/development-partner/

We live Hänssler

Experts in sealing technology and plastic construction parts

The success story of the Hänssler family business began in 1986 with the trade and development of sealing elements of all kinds.

Today, Hänssler has become a globally recognized hub of technical know-how for the development, design and manufacture of reliable standard products and sophisticated special articles in the field of plastics and sealing technology.

Almost all manufacturing options can now be realized in-house or together with our reliable partners: from turning/milling to injection molding and additive manufacturing.

Working together is important to us

We are a solid, independent family business with flat hierarchies and a familiar corporate culture. Our employees reward this with great loyalty to the company.

Information, further education and training are important building blocks in our corporate development.

Our guiding principles

At Hänssler, the satisfaction of customers, suppliers and employees takes center stage. Our values form the basis of our corporate culture and are uncompromisingly taken into account in every decision we make.

- We shape our business processes with enthusiasm and respectful commitment
- We never want to be the biggest, but always the best!
- We always act in such a way that our entrepreneurial freedom to make decisions remains secure
- Our actions are based on a spirit of mutual commitment, friendliness and sincerity
- Our relationships with customers and business partners are based on mutual long-term benefit.
- Quality is practiced uncompromisingly in all areas
- It is the responsibility of each individual to avoid endangering people and the environment

Become a part of our community!

Apply via **bindabei@dicht.de** – also on your own initiative for permanent positions, internships or for a thesis as part of your studies.

Explore our exciting tasks here:
dicht.de/de/unternehmen/jobs-karriere/

LFAM brochure

The “LFAM” brochure gives you a compact overview of our Large Format Additive Manufacturing capabilities and shows how hybrid 3D printing and CNC machining can be combined to produce large, precise and functional plastic components.

Here you will find information on process advantages, material options, dimensional possibilities, sustainability aspects and application areas. The brochure also explains how we support your project from the initial idea and feasibility analysis through to production.

plastics technology and additive manufacturing

In addition to sealing technology, we are also specialists in the high-quality processing of high-tech plastics using machining, injection molding or additive manufacturing.

For an overview of our services, please refer to our separate plastics technology brochure.

For more information, visit
dicht.de/en/plastics-technology/

HÄNSSLER
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