

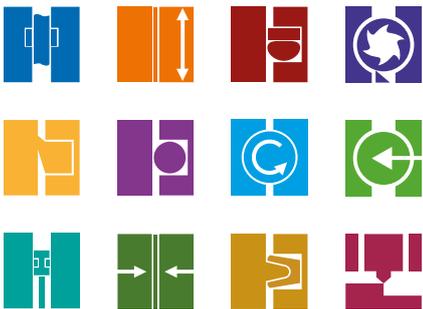


» PLASTICS TECHNOLOGY

» SEALING TECHNOLOGY

» ADDITIVE MANUFACTURING

» KNOW-HOW



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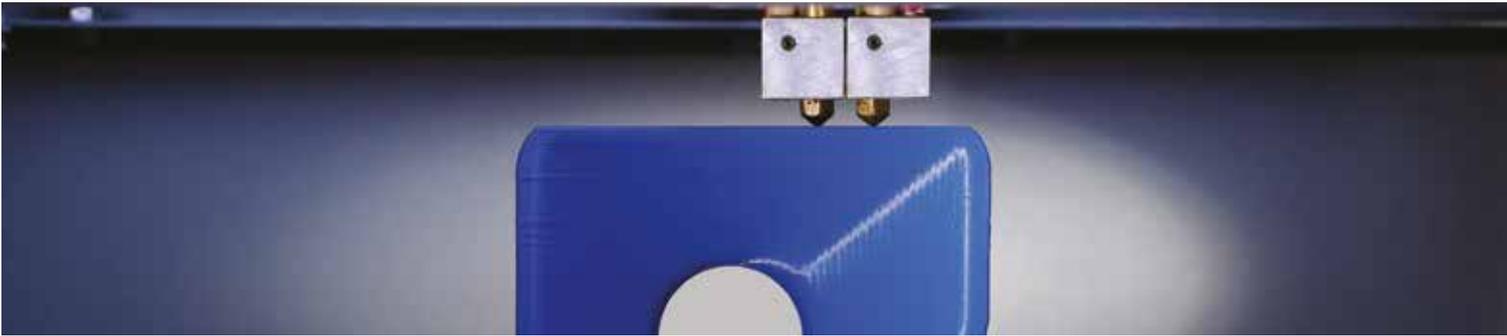
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## We live Hänsler

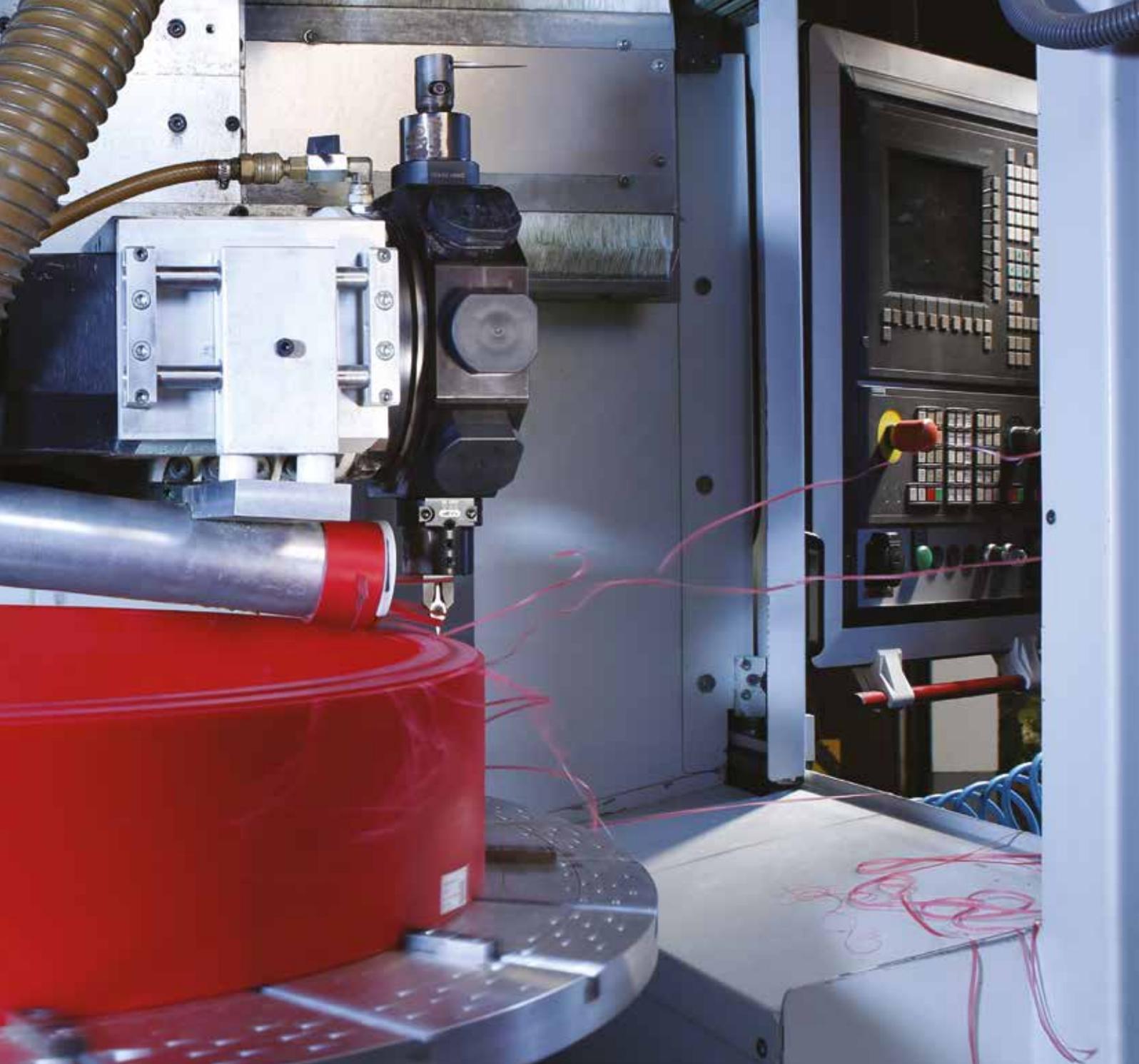
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## SEALING TECHNOLOGY

**You have an idea - we'll seal the deal!**

We have been manufacturing sealing elements for almost all industries for over 30 years. We are your development partner and focus on personal technical consultancy.

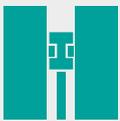


## Our core competencies

- We supply a comprehensive range of state of the art sealing technology
- We supply custom sealing elements according to your drawings
- We develop and manufacture the ideal solution for your requirements
- We supply complete sealing sets according to your specifications allowing you to optimise your processes

## Our strengths

- Quality from our in-house production
- Flexibility (irrespective of quantities, diameter of 1-1,500 mm, wide range of materials)
- Availability (large warehouse with semi-finished goods and standard parts)
- Short delivery times (delivery on next working day possible)



## PISTON SEALS

A piston sealing is used for outside sealing. Its design is crucial for the functioning of the entire assembly. A number of profiles are offered on the market – we will assist you in making the perfect choice.

### Standard profiles

The standard profiles shown below are seals that represent the state of the art. We manufacture these standard seals in-house or supply them as moulded parts from approved partners for all required groove dimensions in a variety of materials. Depending on the quantity, the material and your requirements, we will offer you seals in the appropriate manufacturing process – everything from one source!

Please find an overview and more information in the following categories:

- lip seals and chevron set
- compact piston seals
- piston seals with leader elements made of elastomer

### Profiles according to customer preferences

If you have conditions which cannot be optimally solved with a standard profile, we can also manufacture a sealing system according to customers' drawings or develop a system. In this field we are a development partner and are perfectly equipped to design the ideal product for you.

### Choosing the correct profile

The more information is known, the better a sealing system can be adapted to a specific application. To choose the right profile and the optimal material, the following criteria are vital:

- installation space
- double or single-acting
- pressure range
- temperature range
- medium
- lifting speed
- counter surface
- installation option
- friction behaviour
- stick-slip behaviour
- tightness
- service life expectancy
- price and availability

# Lip seals and chevron set

## Lip seals

### Application

- o for all areas of hydraulics
- o single direction sealing element
- o high tightness
- o assembly in closed grooves possible
- o many sizes available as moulded parts
- o profiles also for pneumatics use

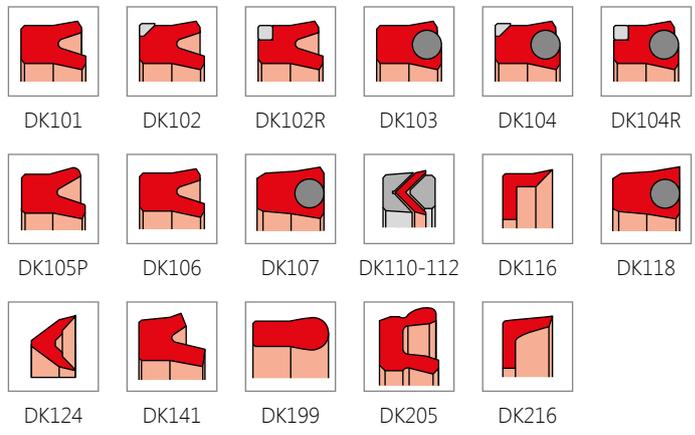
## Chevron set

### Application

- o mining, presses, special machinery
- o single direction sealing element
- o high tightness
- o adjustable
- o available in slotted version

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 lip seals for higher pressures up to 700 bar are possible



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o for sealing elements from the groups: 02 - TPU, 03 - Elastomers
- o for support and guide elements from the groups: 01 - PTFE, 04 - Engineering plastics (e. g. POM, PA, PEEK)

# Compact piston seals

### Application

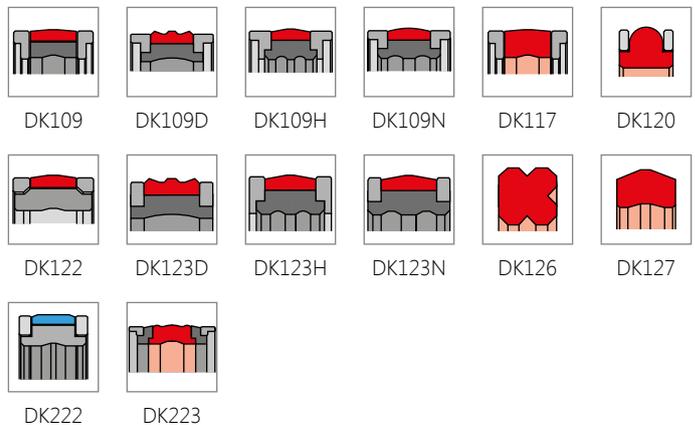
- o universal use for standard cylinders
- o cost-effective for standard dimensions
- o compact installation space

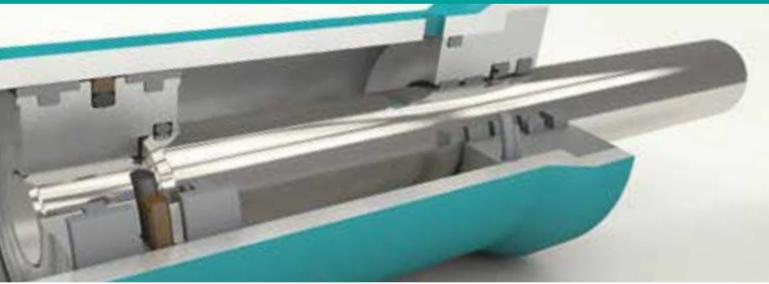
Pressure range	up to 400 bar
Sliding speeds	up to 0,5 m/s
Temperature range	-55 to +220 °C (depending on material)



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

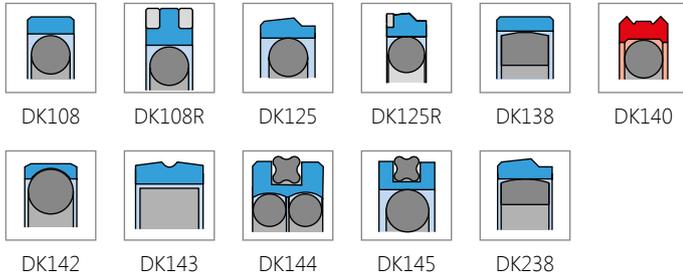
- o for sealing elements from the groups: 02 – TPU, 03 – Elastomers
- o for support and guide elements from the groups: 01 - PTFE, 04 - Engineering plastics (e. g. POM, PA, PEEK)





## Application

- o double-sided and single direction sealing elements
- o universal use
- o low friction
- o high sliding speeds
- o small installation space
- o high service life



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



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o for sealing elements from the groups:
  - 01 – PTFE
  - 02 – TPU
  - 04 – Engineering plastics (e.g. PE)
- o for support and guide elements from the groups:
  - 01 – PTFE
  - 04 – Engineering plastics (e.g. POM, PA, PEEK)
- o for leader elements from the group:
  - 03 – Elastomers

## Replacement seals within 24 hours

The use of portal milling machines in sealing technology is very specific. We were chosen by vhf camufacture AG as a reference customers.

Especially when it comes to manufacturing seals with large diameters, very short delivery times are vital, as machine standstills are

very costly. If blanks are not available, we can also manufacture these from sheet material, in order to keep delivery times short.

In urgent cases we can produce and supply replacement seals within one day.





# BACK-UP RINGS

Back-up rings increase the compression strength of a sealing system by covering the sealing gap. The back-up rings are designed according to their use, ranging from standard applications to "active" back-up rings.

## Standard profiles

The standard profiles shown below are back-up rings that represent the state of the art. We manufacture these back-up rings for all required groove dimensions in a variety of materials up to a diameter of 1,500 mm.

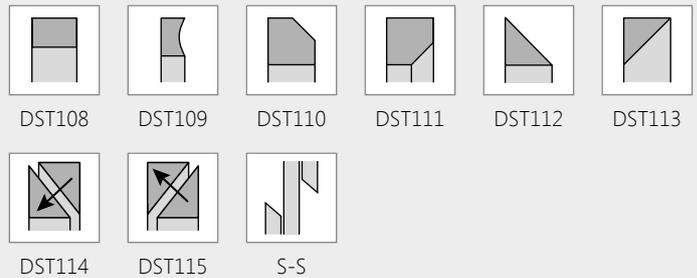
## Profiles according to customer preferences

If you have conditions which cannot be optimally solved with a standard profile, we can also manufacture a support element according to customers' drawings or develop one.



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o possible materials from the groups
  - 01 - PTFE
  - 02 - TPU
  - 04 - Engineering plastics (e.g. POM, PA, PEEK)



## Choosing the correct profile

The more information is known, the better a sealing system can be adapted to a specific application. To choose the right profile and the optimal material, the following criteria are vital:

- o installation space
- o double or single-acting
- o pressure range
- o temperature range
- o medium
- o counter surface
- o installation option
- o friction behaviour
- o tightness
- o service life expectancy
- o price and availability



## ROD SEALS

A rod seal in an inside seal and its design is crucial for the functioning of the entire assembly. A number of profiles are offered on the market – we will assist you in making the perfect choice.

### Standard profiles

The standard profiles shown below are seals that represent the state of the art. We manufacture these standard seals in-house or supply them as moulded parts from approved partners for all required groove dimensions in a variety of materials.

Depending on the quantity, the material and your requirements, we will offer you seals in the appropriate manufacturing process – everything from one source!

Please find an overview and more information in the following categories:

- lip seals and chevron set
- rod seals with leader elements made of elastomer

### Profiles according to customer preferences

If you have conditions which cannot be optimally solved with a standard profile, we can also manufacture an ideal sealing system according to customers' drawings or develop one. In this field we are a development partner and are perfectly equipped to design the ideal product for you.

### Choosing the correct profile

The more information is known, the better a sealing system can be adapted to a specific application. To choose the right profile and the ideal material, the following criteria are vital:

- |                           |                           |
|---------------------------|---------------------------|
| ◦ installation space      | ◦ installation option     |
| ◦ double or single-acting | ◦ friction behaviour      |
| ◦ pressure range          | ◦ stick-slip behaviour    |
| ◦ temperature range       | ◦ tightness               |
| ◦ medium                  | ◦ service life expectancy |
| ◦ lifting speed           | ◦ price and availability  |
| ◦ counter surface         |                           |

## Lip seals

### Application

- o for all areas of hydraulics
- o single direction sealing element
- o high tightness
- o assembly in closed grooves possible
- o many sizes available as moulded parts
- o profiles also for pneumatics use

## Chevron set

### Application

- o mining, presses, special machinery
- o single direction sealing element
- o high tightness
- o adjustable
- o available in slotted version

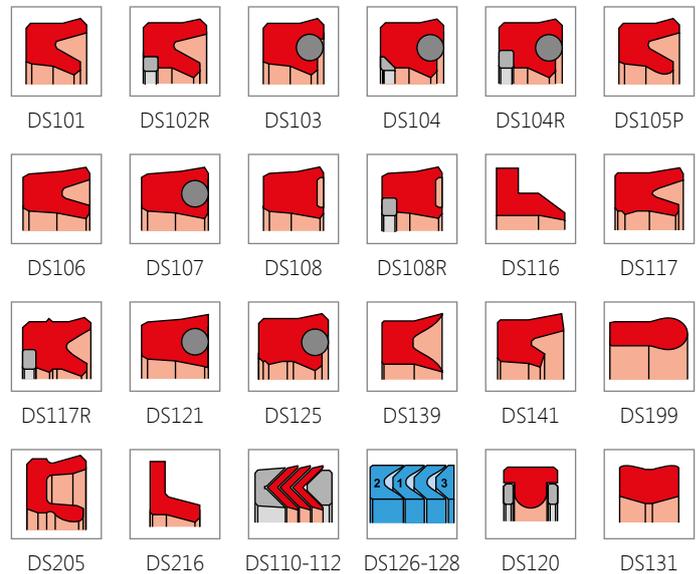
Pressure range	up to 400 bar*
Sliding speeds	up to 0,5 m/s
Temperature range	-55 to +220 °C (depending on material)

\*Special solutions for lip seals for higher pressures up to 700 bar are possible



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o for sealing elements from the groups:  
02 - TPU  
03 - Elastomers



- o for support and guide elements from the groups:  
01 - PTFE  
04 - Engineering plastics (e.g. POM, PA, PEEK)

## Rod seals with leader elements made of elastomer

### Application

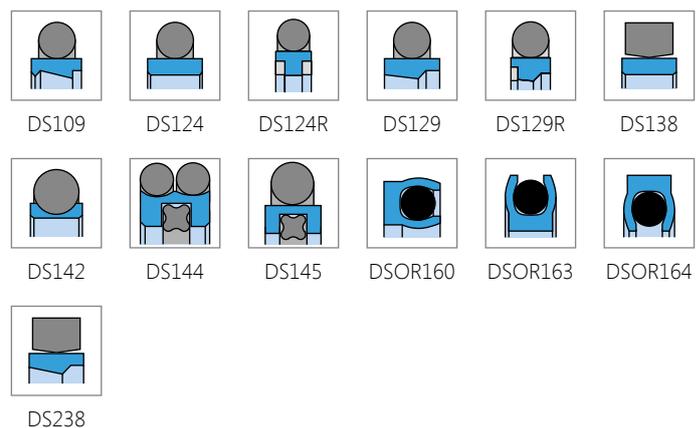
- o double-sided and single direction sealing elements
- o universal use
- o low friction
- o high sliding speeds
- o small installation space
- o high service life

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



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o for sealing elements from the groups:  
01 - PTFE, 02 - TPU, 04 - Engineering plastics (e.g. PE)
- o for support and guide elements from the groups:  
01 - PTFE, 04 - Engineering plastics (e.g. POM, PA, PEEK)
- o for leader elements from the group: 03 - Elastomers





## SCRAPERS

Scrapers are installed in hydraulic and pneumatic cylinders to wipe off dirt, foreign particles, chips, ice, moisture etc. from the piston bar. This prevents contamination of the medium and protects seals, guides and other components.

### Standard profiles

The standard profiles shown below are scrapers that represent the state of the art. We manufacture these standard scrapers in-house or supply them as moulded parts from approved partners for all required groove dimensions in a variety of materials.

Depending on the quantity, the material and your requirements, we offer scrapers in the appropriate manufacturing process – everything from one source!

Please find an overview and more information in the following categories:

- standard scrapers
- scrapers with leader elements made of elastomer

### Profiles according to customer preferences

If you have conditions which cannot be optimally solved with a standard profile, we can also manufacture an ideal wiper system according to customers' drawings or develop one. In this field we are a development partner and are perfectly equipped to design the ideal product for you.

### Choosing the correct profile

The more information is known, the better a wiper system can be adapted to a specific application. To choose the right profile and the optimal material, the following criteria are vital:

- installation space
- temperature range
- medium
- lifting speed
- counter surface
- installation option
- friction behaviour
- service life expectancy
- price and availability

# Standard scrapers

## Application

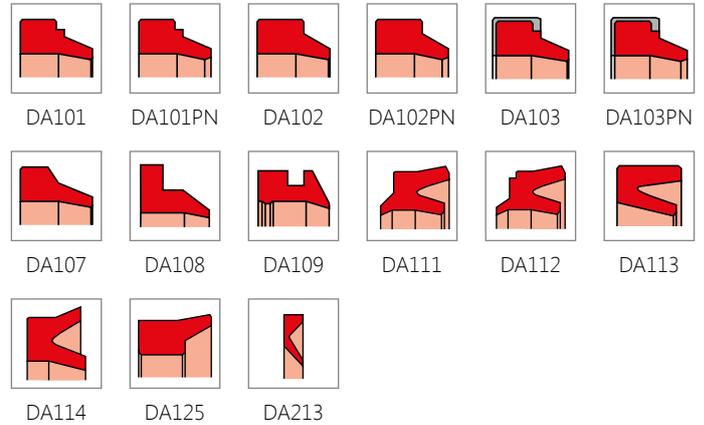
- o for all areas of hydraulics and pneumatics
- o single-acting, for wiping off dirt, moisture etc.
- o double-acting, to additionally reduce the discharge of lubricant film
- o high tightness
- o assembly in closed grooves
- o many sizes available as moulded parts
- o Double scrapers must be coordinated with the sealing system used

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



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o possible materials for scrapers from the groups:  
02 - TPU  
03 - Elastomers



# Scrapers with leader elements made of elastomer

## Application

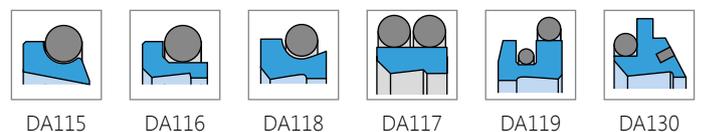
- o for all areas of hydraulics and pneumatics
- o single-acting, for wiping off dirt, moisture etc.
- o double-acting, to additionally reduce the discharge of lubricant film
- o low friction
- o Assembly in closed grooves from a diameter of 20 mm
- o Double scrapers must be coordinated with the sealing system used

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



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o possible materials for scrapers from the groups:  
01 - PTFE  
04 - Engineering plastics
- o for leader elements from the group:  
03 - Elastomers





## SHAFT & ROTARY SEALS

In addition to the entire range of shapes and dimensions of radial shaft seals according to DIN 3760/3761, Hänssler also supplies all types of axial shaft seals (chevron set) as well as shaft protection sleeves. We manufacture seals for rotary or swivel movements for rotary distributors, swivel drives, hydraulic motors and tool spindles of any kind.

### Standard profiles

The standard profiles shown below are seals that represent the state of the art. We manufacture these standard seals in-house or supply them as moulded parts from approved partners for all required groove dimensions in a variety of materials. Depending on the quantity, the material and your requirements, we will offer you seals in the appropriate manufacturing process – everything from one source!

Please find an overview and more information in the following categories:

- shaft sealing rings
- rotary seals (compact, axial and groove ring profiles)
- rotary seals with leader element made of elastomer

### Profiles according to customer preferences

If you have conditions which cannot be optimally solved with a standard profile, we can also manufacture an ideal wiper system according to customers' drawings or develop one. In this field we are a development partner and are perfectly equipped to design the ideal product for you.

### Choosing the correct profile

The more information is known, the better a sealing system can be adapted to a specific application. To choose the right profile and the ideal material, the following criteria are vital:

- |                           |                           |
|---------------------------|---------------------------|
| ◦ installation space      | ◦ counter surface         |
| ◦ double or single-acting | ◦ installation option     |
| ◦ pressure range          | ◦ friction behaviour      |
| ◦ temperature range       | ◦ tightness               |
| ◦ medium                  | ◦ service life expectancy |
| ◦ rotary / swivel speed   | ◦ price and availability  |

# Shaft sealing rings

## Material selection for preload rings

- o steel, stainless steel
- o plastic
- o aluminium
- o gunmetal

## Material selection for springs

- o steel, stainless steel
- o special materials

## Application

- o universal use
- o drives
- o high sliding speed
- o low pressures
- o Special solution for extreme sliding speeds
- o low friction

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



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o possible materials for sealing elements from the groups:  
01 - PTFE, 02 - TPU, 03 - Elastomers



- o for support and guide elements from the group:  
04 - Engineering plastics (e.g. POM, PA, PEEK)
- o for leader elements from the group:  
03 - Elastomers

# Rotary seals (compact, axial and groove ring profiles)

## Application

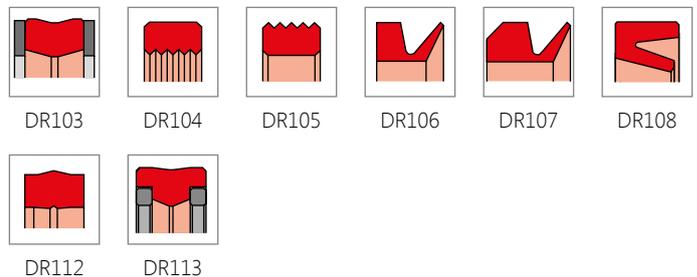
- o rotary transmission
- o rotary indexing tables
- o swivel devices
- o assembly in closed grooves
- o many sizes available as moulded parts
- o small installation space
- o low friction
- o single- and double-acting operation

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



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o for sealing elements from the groups:  
02 - TPU  
03 - Elastomers
- o for support and guide elements from the groups:  
01 - PTFE  
04 - Engineering plastics (e.g. POM, PA, PEEK)





## Application

- rotary transmission
- rotary indexing tables
- swivel devices
- special machine engineering
- single- and double-acting operation
- assembly in closed grooves from a diameter of 20 mm
- high pressures
- low sliding speeds

Pressure range	up to 300 bar
Sliding speeds	up to 2 m/s
Temperature range	-55 to +200 °C (depending on material)



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- for sealing elements from the groups:
  - 01 - PTFE
  - 02 - TPU
  - 04 - Engineering plastics (e.g. PE)
- for leader elements from the group:
  - 03 - Elastomers



## Quick and easy measuring and identification of O-rings and seals

Determine the diameter of O-rings, rubber seals and other elastic round bodies with our O-ring measuring towers-range: from 5 to 300 mm in 1 mm steps.

Simply move the round body to be measured on the tower until the diameter is reached where the round body fits snug.

The O-ring measuring towers are manufactured from POM and are available in six diameter ranges:

- 005 - 064 mm
- 065 - 104 mm
- 105 - 154 mm
- 155 - 200 mm
- 201 - 250 mm
- 251 - 300 mm

The O-ring measuring towers are also available as a set.



## O-RINGS

O-rings are the easiest sealing elements and are used in static and dynamic applications. In many sealing systems. They are used as a leader element.

O-rings are standard parts that we mainly purchase from our verified partners; however, we do manufacture turned variants for special dimensions and also made from special materials.

We hold a large stock in order to flexibly meet your demands.

### Choosing the correct O-ring

The more information is known, the better a sealing system can be adapted to a specific application. To choose the right O-ring and the optimal material, the following criteria are vital:

- installation space
- pressure range
- temperature range
- medium
- lifting speed
- counter surface
- friction behaviour
- tightness
- Price and availability



DFL106



DFL111



DR109



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- for sealing elements from the groups:
  - 01 - PTFE
  - 02 - TPU
  - 03 - Elastomers



## SPRING-LOADED SEALS

Piston, rod and rotary seals can also be supplied in spring-loaded variants. The seals are particularly well-suited for use in aggressive media and high temperatures. Also, silicone fillings, are interesting applications, especially in the food industry.

### Standard profiles

The standard profiles shown below are seals that represent the state of the art. We manufacture these standard seals in-house for all required groove dimensions in a variety of materials. In a diameter range from a few millimetres up to 1,5 metres - you get everything from on source!

Please find an overview and more information in the following categories:

- preloaded with meander spring
- preloaded with bearing spiral spring

### Profiles according to customer preferences

If you have conditions which cannot be optimally solved with a standard profile, we can also manufacture an ideal wiper system according to customers' drawings or develop one. In this field we are a development partner and are perfectly equipped to design the ideal product for you.

### Choosing the correct profile

The more information is known, the better a sealing system can be adapted to a specific application. To choose the right profile and the ideal material, the following criteria are vital:

- |                         |                           |
|-------------------------|---------------------------|
| ◦ installation space    | ◦ installation option     |
| ◦ pressure range        | ◦ friction behaviour      |
| ◦ temperature range     | ◦ tightness               |
| ◦ medium                | ◦ service life expectancy |
| ◦ rotary / swivel speed | ◦ price and availability  |
| ◦ counter surface       |                           |

## Preloaded with meander spring

### Application

- o aggressive media
- o high temperatures
- o high sliding speeds
- o low friction
- o for the food industry
- o oil and gas applications

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

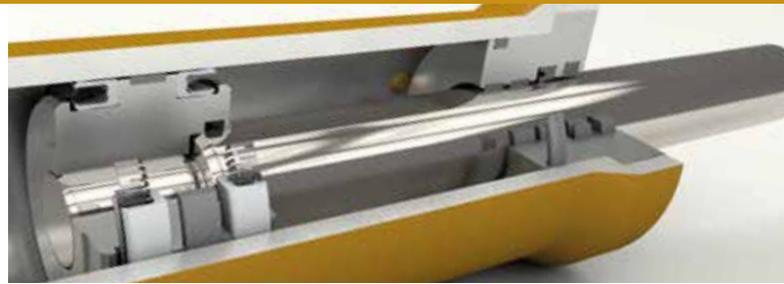
### Material selection for springs

- o stainless steel
- o special materials (Elgiloy etc.)



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o for sealing elements from the group:  
01 - PTFE



DK119



DK139



DR117



DR118



DR119



DR121



DS119

## Preloaded with bearing spiral spring

### Application

- o aggressive media
- o high temperatures
- o high sliding speed
- o low friction
- o for the food industry
- o oil and gas applications

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

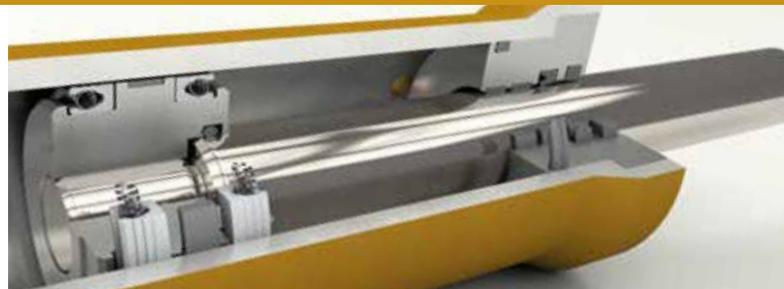
### Material selection for springs

- o stainless steel
- o special materials (Elgiloy etc.)



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o for sealing elements from the group:  
01 - PTFE
- o for support and guide elements from the groups:  
01 - PTFE  
04 - Engineering plastics (e.g. POM, PA, PEEK)



DS118



DSFH160



DSFH161



DSFH162



DSFH163



DSFH164



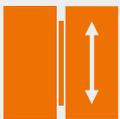
DKFH162



DKFH165



DKFH166



## GUIDE RINGS

Piston and rod guide elements absorb lateral forces and prevent metallic contact between the moving components. The additional element separates the functions and a more cost-effective construction is possible compared to previously used metallic guides.

### Standard profiles

The standard profiles shown below are guide rings that represent the state of the art. We manufacture these standard guide rings in-house for all required groove dimensions in a variety of materials. In addition to turned and injection moulded guide rings we also supply many dimensions by the running metre or ready cut.

Depending on the quantity, the material and your requirements, we will offer guide elements in the appropriate manufacturing process – everything from one source!

Please find an overview and more information in the following categories:

- rectangle guide rings
- L-shape guide rings
- T-shape guide rings
- U-shape guide rings

### Profiles according to customer preferences

If you have conditions which cannot be optimally solved with a standard profile, we can also manufacture an ideal guide element according to customers' drawings or develop one. In this field we are a development partner and are perfectly equipped to design the ideal product for you.

### Choosing the correct profile

The more information is known, the better a guide element can be adapted to a specific application. To choose the right profile and the optimal material, the following criteria are vital:

- |                         |                           |
|-------------------------|---------------------------|
| ◦ installation space    | ◦ installation option     |
| ◦ lateral forces        | ◦ friction behaviour      |
| ◦ temperature range     | ◦ service life expectancy |
| ◦ medium                | ◦ price and availability  |
| ◦ rotary / swivel speed |                           |
| ◦ counter surface       |                           |

## Rectangle guide rings

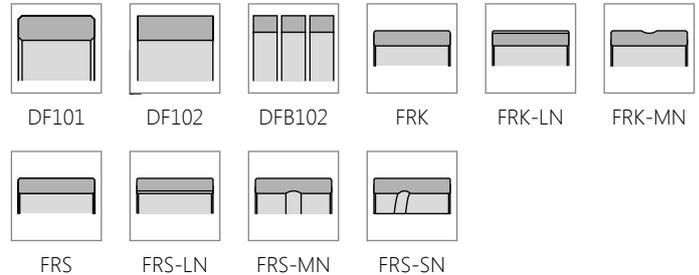
### Application

- o standard
- o cost-effective
- o also available by the metre or pre-cut
- o low friction
- o easy assembly in closed grooves
- o high loads
- o also available with step cutting



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o for guide elements from the groups:  
01 - PTFE  
04 - Engineering plastics (e.g. POM, PA, PEEK)  
05 - Composite materials



## L-shape guide rings

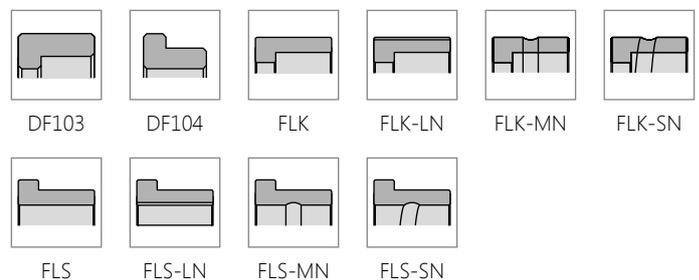
### Application

- o standard
- o cost-effective
- o also available by the metre or pre-cut
- o low friction
- o easy assembly in closed grooves
- o high loads
- o small axial installation space

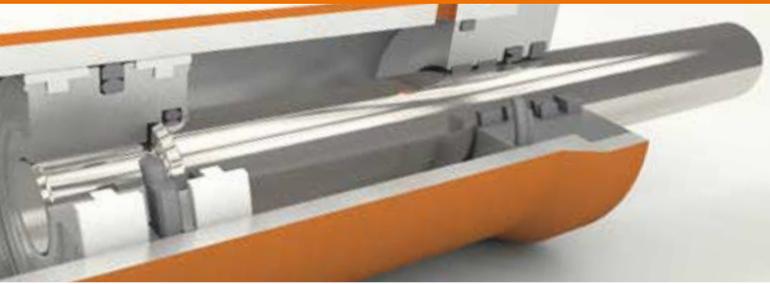


Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- o for guide elements from the groups:  
01 - PTFE  
04 - Engineering plastics (e.g. POM, PA, PEEK)  
05 - Composite materials

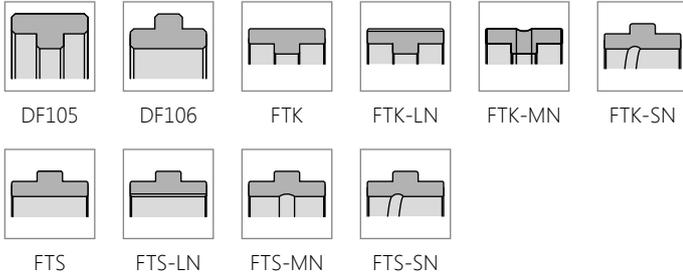


## T-shape guide rings



### Application

- standard
- cost-effective
- also available by the metre or pre-cut
- low friction
- easy assembly in closed grooves
- high loads
- small axial installation space, therefore short piston constructions possible



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

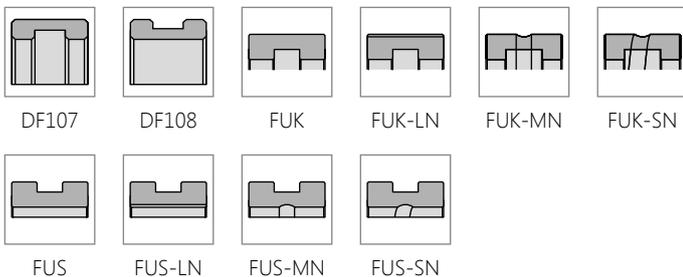
- for guide elements from the groups:
  - 01 - PTFE
  - 04 - Engineering plastics (e.g. POM, PA, PEEK)
  - 05 - Composite materials

## U-shape guide rings



### Application

- standard
- cost-effective
- also available by the metre or pre-cut
- low friction
- easy assembly in closed grooves
- high loads
- small axial installation space, therefore short piston constructions possible



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- for guide elements from the groups:
  - 01 - PTFE
  - 04 - Engineering plastics (e.g. POM, PA, PEEK)
  - 05 - Composite materials



## FLAT SEALS

We supply flat seals for static seals for a variety of applications. Whether manufactured by machine, punched or cut – we can respond to your requirements. Depending on quantities and application we also supply moulded parts in a wide range of materials.



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- for sealing elements from the group:
  - 01 - PTFE
  - 02 - TPU
  - 03 - Elastomers
  - 04 - Engineering plastics (e.g. POM, PA, PEEK)
  - 05 - Composite materials



DFL101



DFL102



DFL103



DFL104



DFL105



DFL107



DFL108



DFL109



DFL110



## PLASTICS TECHNOLOGY

You have an idea - we'll make it in plastic!

We also apply our manufacturing know-how in sealing technology to the plastics field, from the beginning, in order to develop complex construction parts together with our customers and to subsequently manufacture these in high precision.

Plastics technology has been part of our business for many years. Our procedures and machines are equipped to manufacture highly

complex plastic parts in a variety of materials. From a simple turned part to turned-milled parts that can only be produced in 5-axis simultaneous process, we supply almost all industries.



### Our core competencies

- We supply custom plastic parts according to your drawing and 3D data set
- We develop and manufacture the ideal solution for your requirements with regard to materials, geometry and costs
- We assist you in choosing the optimal manufacturing process for your application. Whether chip machined, injection moulded or additive production – get it all from one source!

### Our strengths

- Quality from our in-house production
- Flexibility (irrespective of quantity, variety of materials)
- Availability (large warehouse storing semi-finished goods)
- Short delivery times (delivery on next working day possible)



## TURNING AND MILLING PARTS

### Construction parts made from high-performance plastics

We advise you on how construction parts from plastics can be manufactured for your requirements and determine the optimal material taking an economic production into account. We offer you the technical know-how and check your operating conditions.

According to your specifications we can take care of your construction drawings, change them or adjust them. If required, we also produce prototypes. We will gladly accompany you in product development in order to design an optimal plastic part.

We deliver across industries, which some of the following having become our main areas:

- electrical industry
- racing
- food industry
- machinery and plant engineering
- renewable energy
- medical technology
- automation technology

### Specialist for plastic machining

A machined production of metal and plastic parts on the same machines and production plants is not efficient in our experience. There are significant differences which need to be observed:

- cooling
- tools
- chip removal and disposal (separation of types)
- cutting and feed rates
- clamping devices
- programme sequences
- manufacturing know-how

If you are a specialist in metal processing, outsourcing the manufacturing of plastic parts will benefit you greatly. We will assist you.



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- possible materials from the groups:
  - 01 - PTFE
  - 04 - Engineering plastics



## MOULDED PARTS

### From prototype to series

One of our core competencies is supporting our customers from the first prototype to the production of serial parts.

When the quantity of turned-milled parts and seals becomes too great, and the machining process is uneconomical, we will develop the optimal moulded part together with you. We can do this in our in-house tool construction.

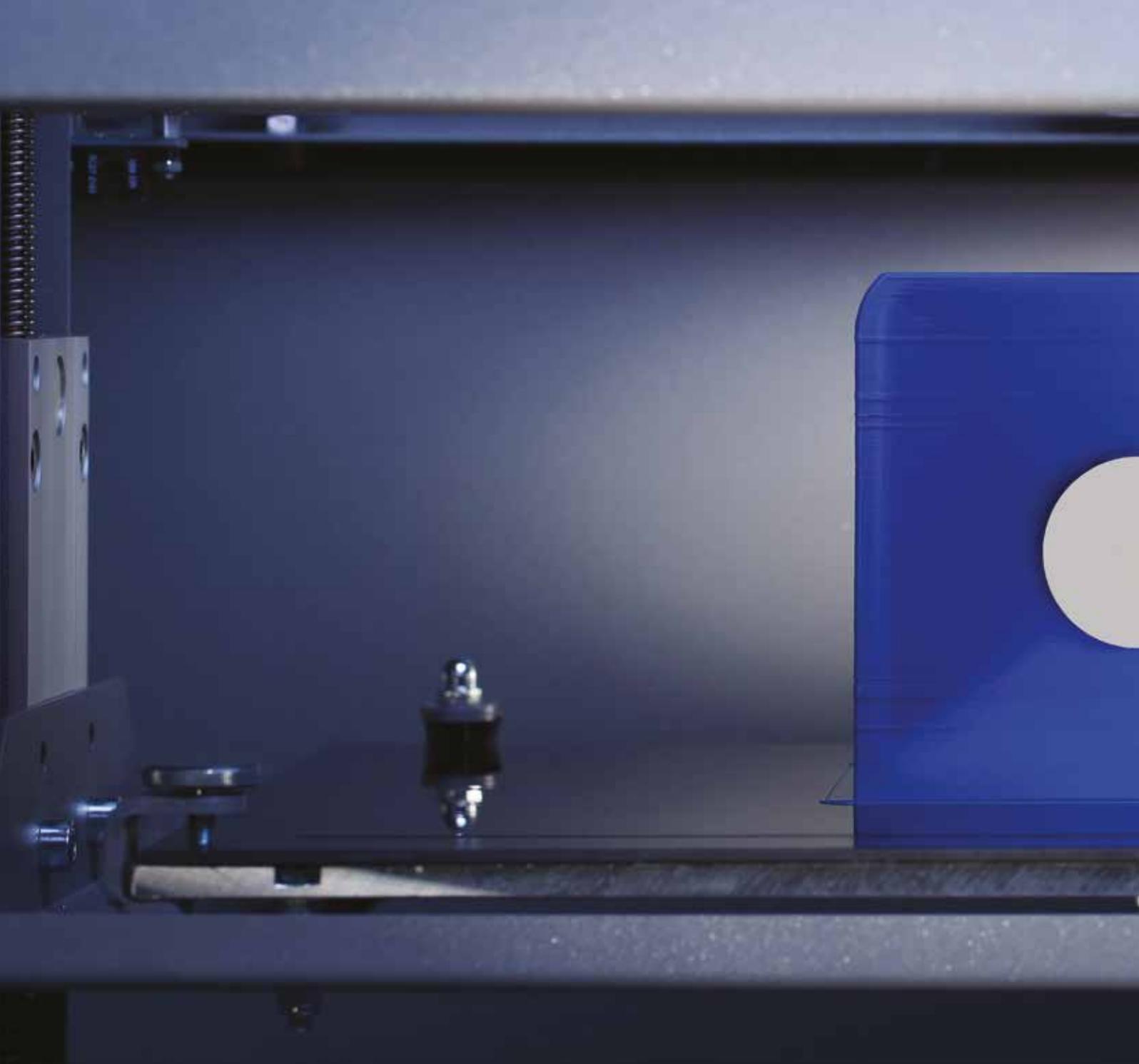
For simple parts and small quantities we make use of our modular system for tools, in order to deliver moulded tools with a very short delivery time and at low tool costs.

Talk to us at the beginning of your new product development! Thanks to our experience and high level of manufacturing expertise, we will quickly develop the desired end product with you.



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- possible materials from the groups:
  - 02 - TPU
  - 03 - Elastomers
  - 04 - Engineering plastics



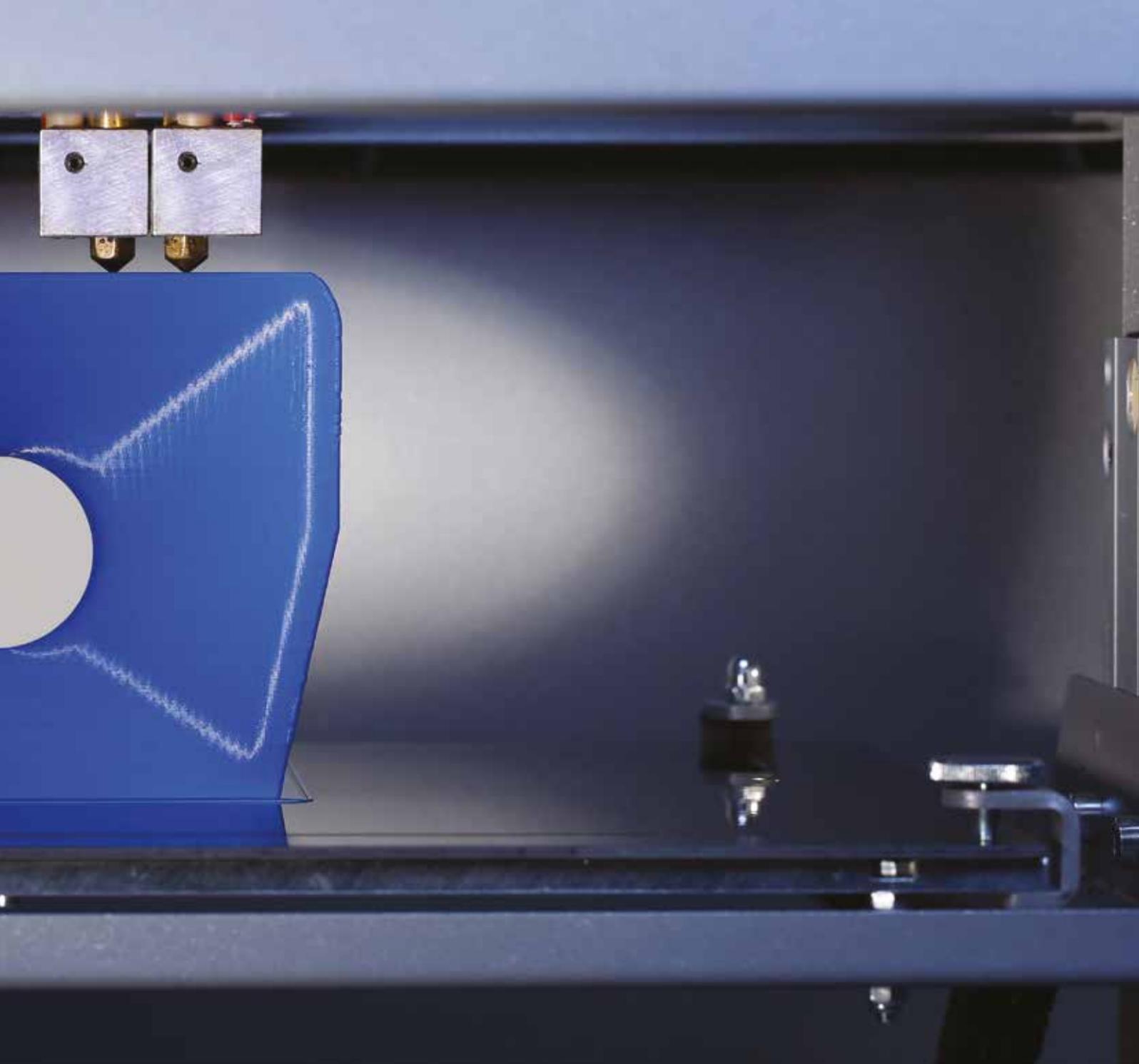
## ADDITIVE MANUFACTURING

The additive manufacturing (3D print) is a perfect example of our philosophy of accompanying our customers from the prototype to serial parts.

On the one hand, component demonstration models can be produced cost-efficiently before manufacturing approval, and on the other hand, the new production methods allow for the possibility of manufacturing usable components with new degrees of freedom.

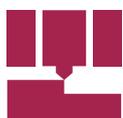
According to the motto "3D print, not only for the desktop", we will support you in taking advantage of the benefits of these manufacturing processes:

- higher geometry complexity (undercuts, hollow components, curved channels in the work piece, free-form surfaces)
- light weight construction
- costs
- delivery time
- production without special tools



There are many production processes available in this sector, and accordingly many materials. This multitude of combinations allows us to identify the ideal implementation for your application.

The combination with our conventional production methods is a further advantage; additive manufactured components can be reworked in our plastics technology department.



# ADDITIVE MANUFACTURING

## Rapid prototyping

We manufacture low-cost prototypes with very short delivery times for you. You can immediately hold your development in your hands and test the geometry and function.

This way, errors are avoided and new ideas are developed. Ultimately, not only the products is optimised but also, the costs in the development process are significantly reduced.

We can manufacture prototypes in various manufacturing processes and using various materials:

- SLA
- FFF
- SLS
- vacuum casting

We will gladly advise you about suitable manufacturing processes and optimal materials for your application.

## Design studies or finished product

Additive manufacturing processes are not only attractive for industrial products. Thanks to the new degrees of freedom, there are virtually no limits.

### Application examples

- lighting
- advertising media
- packaging
- demonstration models
- toys
- art objects
- furniture

## Operating equipment

In our production, a multitude of additive manufactured components are already used in day to day operations. More complex geometries can be produced, which could not be manufactured, or only at heavy cost, in the conventional way.

Neither machinery nor skilled workers need to be taken from production in order to manufacture the operating equipment. Of course, the application must be suitable, but we will gladly assist and advise you.

### Application examples

- suction devices
- funnels
- brackets
- housings
- grippers
- guides
- material provision

### Advantages of material provision

- complex geometry
- cost-effective
- reduced weight (hollow components possible)
- short delivery times

## Fixture construction

Additive manufactured fixtures can improve your production process. The ability to produce complex geometries directly from the 3D data, allows for the adaptation of fixtures according to your requests.

### Application examples

- drilling templates
- test equipment (e.g. for rods, plastic moulded parts)
- labelling templates
- brackets
- trays (e.g. for labelling systems, component cleaning)
- workplace optimisation
- material provision

## Production of serial parts

If a geometry is required which cannot be produced conventionally, it can be worthwhile to draw on additive manufactured serial parts.

Another advantage is the possibility of producing hollow components, with which unbeatable weight advantages can be realised.

We will gladly advise you on the appropriate manufacturing process and materials.



Please see an overview of the possible materials in our brochure "Material overview" or at [www.dicht.de](http://www.dicht.de)

- possible materials from the groups:
  - 06 - Materials, additive processing FFF procedure
  - 07 - Materials, additive processing SLA procedure
  - 08 - Materials, additive processing SLS procedure

## Order 3D print

**We manufacture low-cost prototypes and small quantities for you**

– with very short delivery times!

✉ [haenssler@dicht.de](mailto:haenssler@dicht.de)

☎ +49 (0) 621 48480-0



## KNOW-HOW

### Comprehensive consultancy

From product choice to new construction, we provide marketable solutions for demanding requirements. We offer comprehensive consultancy, i.e. we consider all parts required for the solution of customers' requests. This can include own construction parts, but also third-party products, if they are economically viable. Our aim is always the best possible customer solution.

### New product development

We work with state of the art construction and development tools and can accompany you in the project design and development of your product, as your development partner.

Our development team develops solutions for your tasks together with you and contributes in shortening your development processes.



## From prototype to series

Apart from mass production we specialise in the construction of niche products and technically sophisticated special components as well as in small to medium serial production.

This allows us to accompany you throughout the process and you do not need to change suppliers for development and serial production.

## Quality assurance

We don't want to be the largest, but the best company! Of course, this motto is of special significance in quality assurance. We achieve our high quality standards with our mean, networked and clearly defined processes. Just like our products, our processes undergo continuous critical reviews, in order to identify errors before they occur. We are not only ISO 9001 certified, our processes are also in line with ISO 14001 (environmental certification) and ISO 50001 (energy management).



Zertifiziert nach  
**DIN EN ISO 9001**  
**DIN EN ISO 14001**  
**DIN EN ISO 50001**



## WE LIVE HÄNSSLER

### Experts for sealing technology and construction parts made of plastic

The success story of family-owned company Hänsler in the trade and development of sealing elements of all kinds started more than 30 years ago. Today, the company has become a worldwide renowned know-how forge for the development, construction and production of reliable standard products and sophisticated special items in plastics and sealing technology.

### Cooperation matters to us

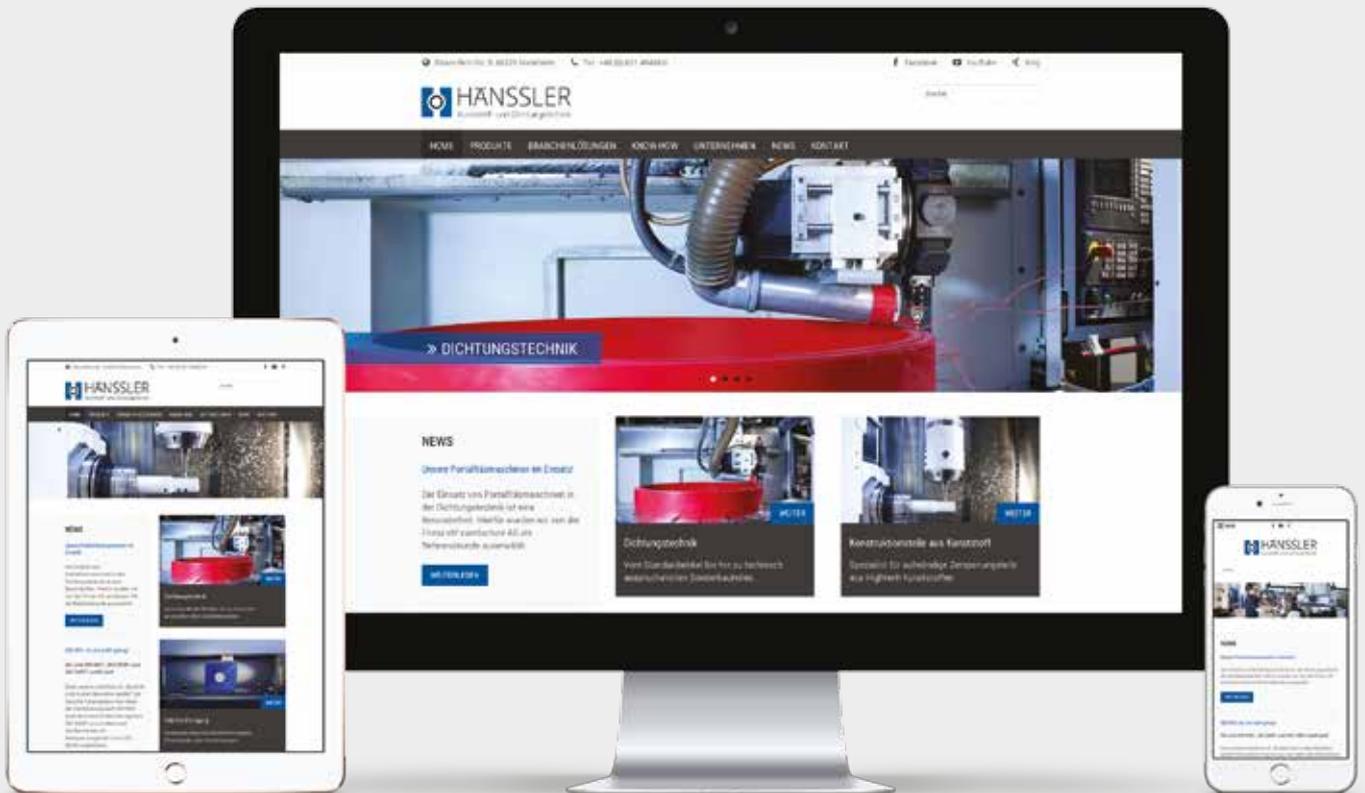
We are a reliable, independent family-owned company and we see our employees as part of our extended family. Information, advanced training and education are important building blocks in the development of our company.



## Our guiding principles

At Hänsler, the corporate culture is aligned to the satisfaction of customers, suppliers and employees and reflected in our guiding principles:

- We perform our business operations with enthusiasm and respectful commitment
- We will never be the largest, but we always want to be the best
- We always act in such a way that our entrepreneurial decision-making freedom remains secure
- Everything we do, we do with mutual respect, friendliness and sincerity
- Our relationships with our customers and business partners are aligned to mutual sustainable benefit
- Quality is lived in all areas



## Information everywhere

For detailed information about us and our service range please see our website: [www.dicht.de](http://www.dicht.de)

Our recommendations are made according to the best of our knowledge. However, they depend on applications and use and are thus non-binding and we exclude any liability for damages.  
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Kunststoff- und Dichtungstechnik