PLASTOSEAL®

The world of Seals

industrial plastics and sealing parts

Development of Plastoseal

Plastoseal Produktions GmbH was established in February 2005. From the outset, its mission was 'for the client to be the focus and to make the impossible possible'. At the time, the owner had nearly 15 years of experience at the forefront of the field of sealing and plastic technology in various companies.

After an extremely short start-up phase (the whereabouts remains a closely guarded secret) the company moved into the newly constructed premises in the Leoben business centre with an area of approx. 250m2 in November 2005. However, it quickly became clear that the space would not be adequate for very long as originally planned. In winter 2006 it was decided to develop an oversize special lathe based on a carousel for the production of seals and special components in conjunction with a reputable machine manufacturer from the sealing branch. This prototype machine was commissioned on our premises in May 2007 and we were thus the world's first small business in this branch capable of producing oversized seals made of elastic and plastic materials in an extremely short time and of delivering these within a few hours of the customer's order where necessary.

This opened up the global market for the Plastoseal brand and it was therefore not surprising that the company premises needed to be extended to 370m2 as early as spring 2008. At this time, 3 production machines were already working flat out at Plastoseal.

In 2010 and also in further consequence in 2011 we enjoyed the fruits of our intensive labours and it soon became clear that we needed to further invest in what we believed to be future-orientated production techniques. In November 2011 we replaced one of our production machines with a new state-of-the-art machine system with additional components (actuated tools). It then also became possible to quickly and flexibly manufacture complex combined turned-milled components and also special seals which could be executed with pressure-relieving notches for example in one set-up.

In November 2012 we then moved to our new operating site with an area of over 1000m2 in Prettachstrasse 6 in 8700 Leoben. This was a hugely important step for the future as the area still had additional production and office space where a further extension would be easily possible.

But we do not plan to rest on our laurels and will still attempt 'to make the impossible possible'.

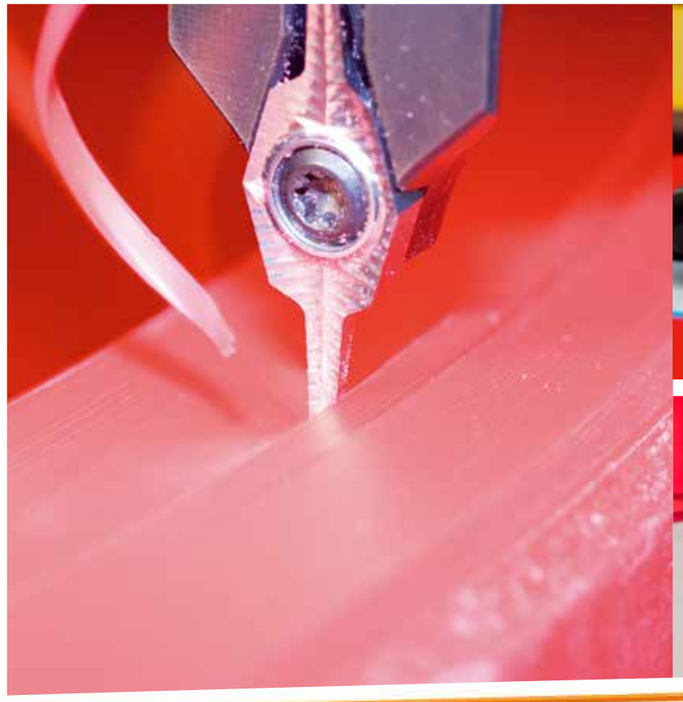
e.h. Wolfgang Kerschbaumer
(Company management)

Sealing Technology

Production of elastic and plastic components for all industry sectors, even motor racing technology. These are manufactured using specially developed machine centres in a flexible manner, independently of dimensions. Regardless of whether an individual item, sample production a small or large series or the manufacture of prototypes which Plastoseal develops together with the customer are required. Almost ANYTHING is possible – from the smallest miniature component (diameter 1mm) to a large seal (currently with a diameter of 2500mm).

Plastic Technology

All types of turning or milling components are offered in-house. They are manufactured on the basis of customer sketches, samples or by means of a joint design with the customers. Additionally, other technologies which fall into this area are offered in cooperation with a partner company (moulded components, bending technology, deep-drawing, etc.). All materials from the standard range are available
(H-PU, POM, PA, PE, PVC, PTFE etc.) as well as all high-performance materials which are available on the market (PEEK, PI, PEI, PVDF, etc.).




Cylinder technology

We offer all types of repairs or newly made products in this area in close cooperation with reputable 'top companies'.

Laser marking

Our in-house LASERMAKERs enable us to quickly and flexibly apply desired inscriptions or markings to the manufactured components on a customer-specific basis. Regardless of whether an elastic or plastic material is involved – almost everything is possible here too – from the smallest to the largest component.

Casting and vulcanisation

Complete packages of hot casting, injection moulding or vulcanisation technologies are offered in cooperation with a system partner. (Plastic-metal composites are not a problem either).

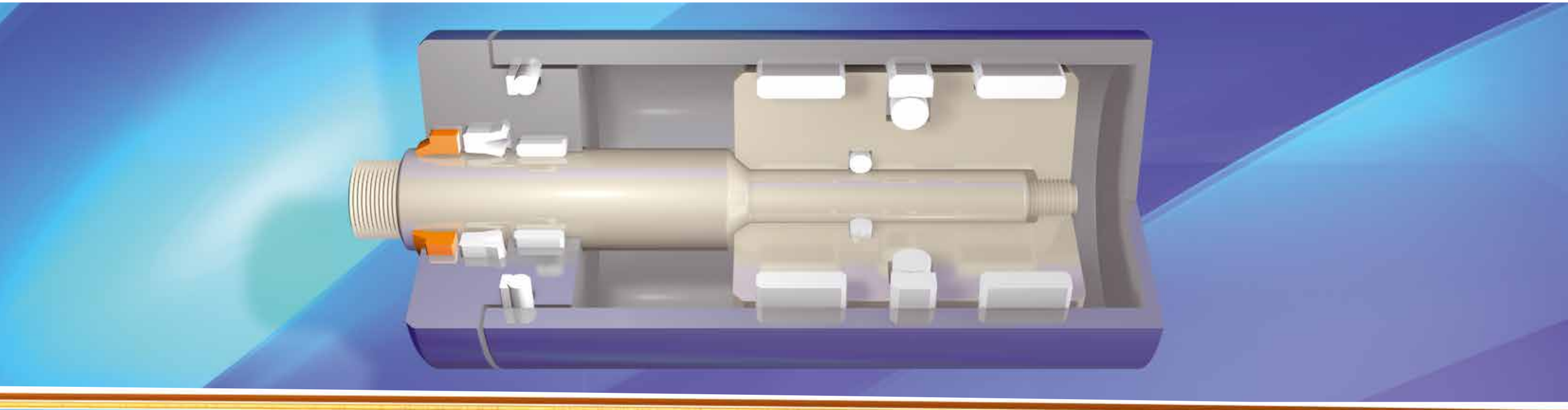
Wiper

The wiper is a very important component in the whole system with a declared objective:
to keep away all external threats which could damage the sealing system.

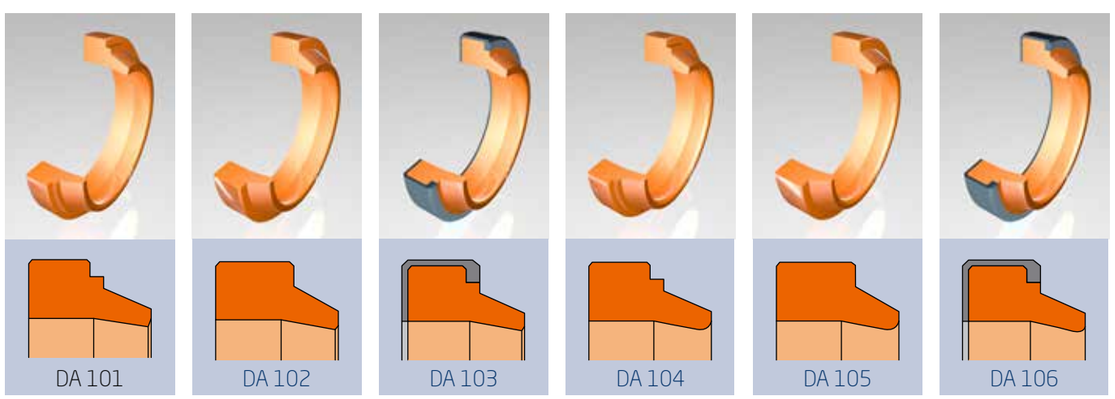
Dirt, shavings, scale, moisture, etc. are enemies of the inside of all technical systems.
Using wipers prevents external contamination reaching the interior of the system.

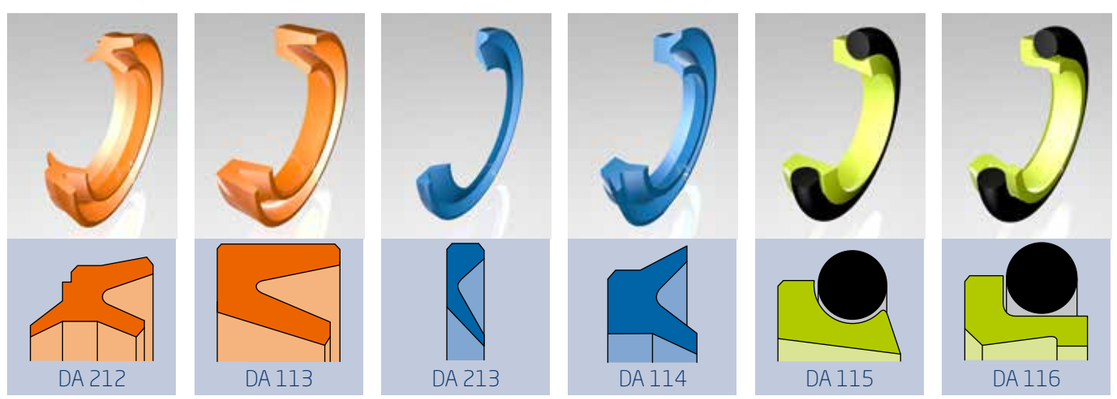
Factors for the selection of wiper geometry

- Only wiper or wiper sealing function
- What type of contamination came from the external area
- Maximum sliding velocity
- Spatial requirements in the construction sector
- Open or closed installation area
- Min./max. temperature range
- Exact specification of medium (important for selection of the material)



Schematic Representation
Special Profiles on Request!





POLYURETHANES
PLASTOMERE - Standard
METALS
ELASTOMERE (Rubbers)
PLASTOMERE - Thermoplaste Special
default material (other materials on request)
PTFE Compounds
HGW Composites

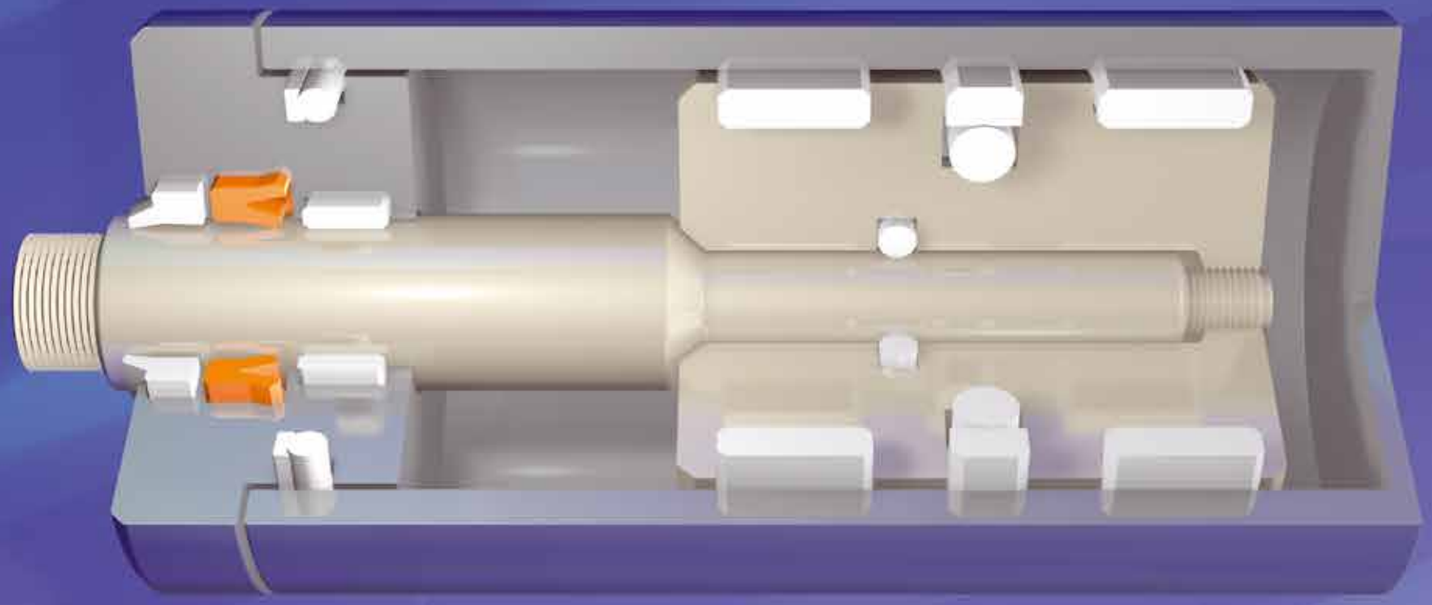
Rod Seals

A rod seal guarantees the external impermeability of the system. The main sealing effect is due to the dynamic interior of the seal. This seals tightly in the area of the piston rod and enables a build-up of pressure when the hydraulic or pneumatic cylinder retracts. No dual-action hydraulic or pneumatic system would work without a rod seal (exception: systems with seal wipers).

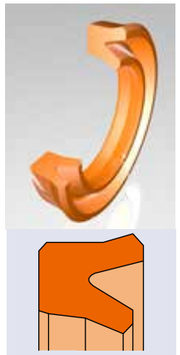
The rod seal has a very great impact on the function and lifespan of the cylinder and other devices used in the hydraulics or pneumatics sector. When this seal is not working, there is also no mechanical movement during the return lift of the cylinder or the medium also leaks out of the system.

Factors when selecting a rod seal

- Spatial requirements in the construction sector
- Area of application of the system
- Maximum sliding velocity
- Exact specification of the metallic gap dimensions
- Maximum pressure load
- Open or closed installation area
- Min./max. temperature
- Exact specification of medium



Schematic Representation
Special Profiles on Request!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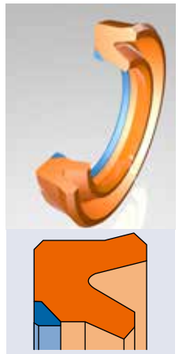
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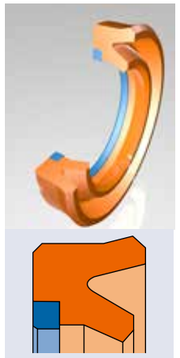
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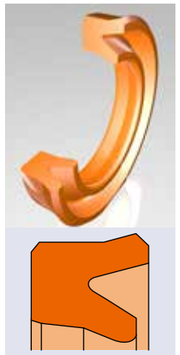
DS 103


DS 104


DS 104-R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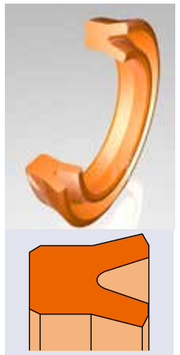
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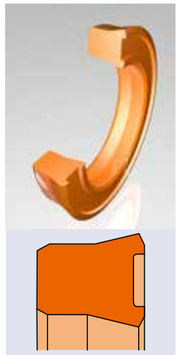
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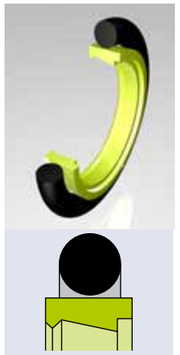
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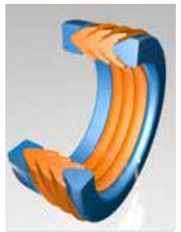
DS 110-112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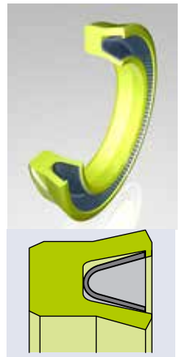
DS 116


DS 216


DS 117


DS 117-R


DS 118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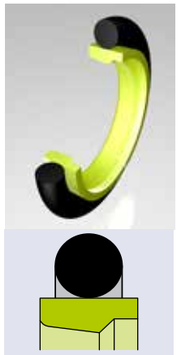
DS 121


DS 124


DS 125


DS 125-R


DS 126-128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DS 130


DS 131


DS 132


DS 138


DS 238


DS 139


DS 141


DS 142


DS 199

POLYURETHANES

PLASTOMERE - Standard

METALS

ELASTOMERE (Rubbers)

PLASTOMERE - Thermoplaste Special

default material
(other materials on request)

PTFE Compounds

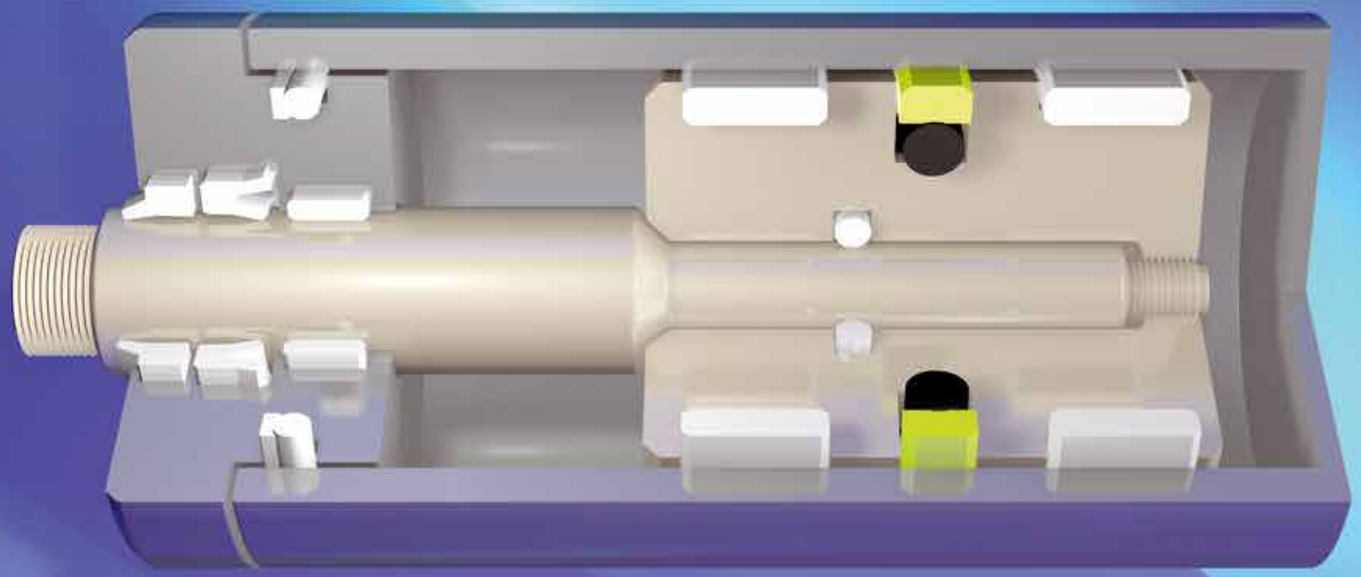
HGW Composites

Piston Seals

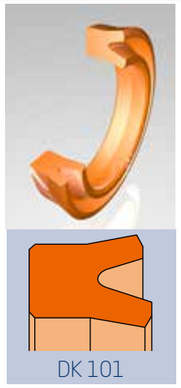
The piston seal is responsible for the mechanical function of a system. Due to the impermeability of a piston seal only a lifting or traction movement is possible on a hydraulic or pneumatic cylinder.
Regardless of whether single- or dual-action, the piston seal is the 'workhorse' of seals. Due to ever more exacting requirements in the hydraulics or pneumatics sector the diversity of profile geometries in this sector is the greatest.

Factors when selecting a piston seal

- Simple- or dual-action sealing system
- Spatial requirements in the construction sector
- Area of application of the system
- Maximum pressure load
- Exact specification of the metallic gap dimensions
- Maximum sliding velocity
- Open or closed installation area
- Min./max. temperature
- Exact specification of medium (important for selection of material)



Schematic Representation
Special Profiles on Request!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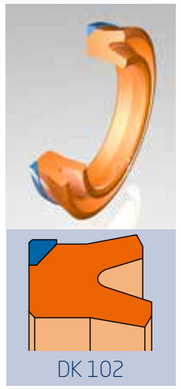
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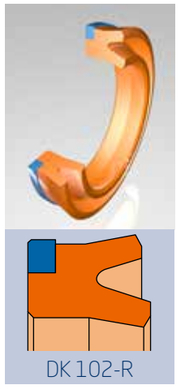
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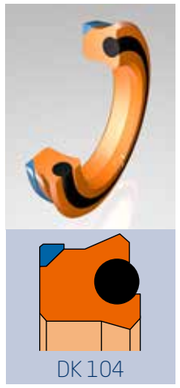
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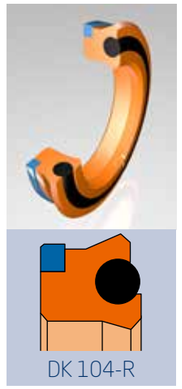
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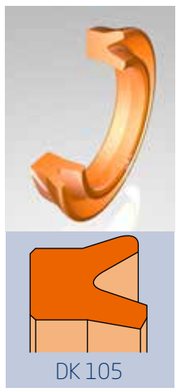
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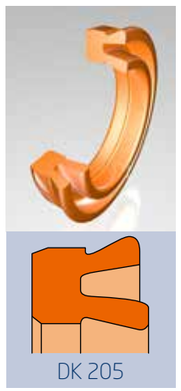
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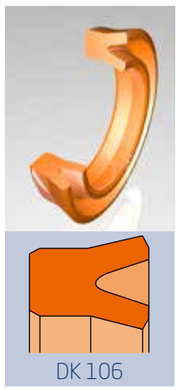
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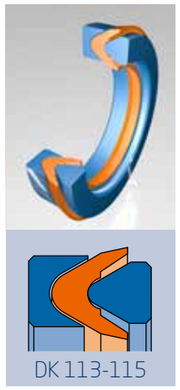
DK 109-D


DK 109-N


DK 109-H


DK 110-112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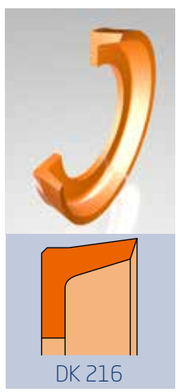
DK 116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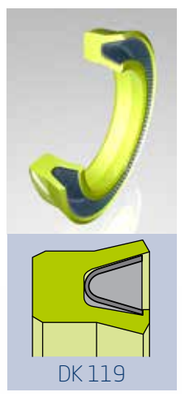
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DK 122


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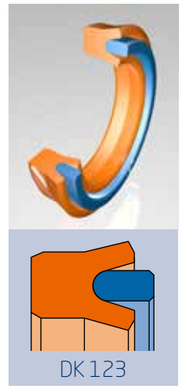
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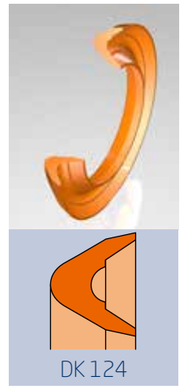
DK 123-H


DK 123-N


DK 123-D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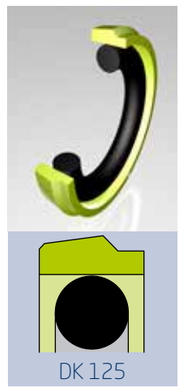
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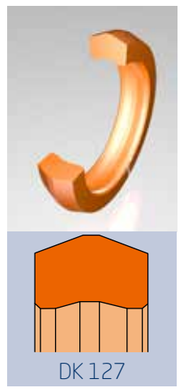
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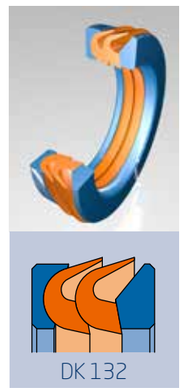
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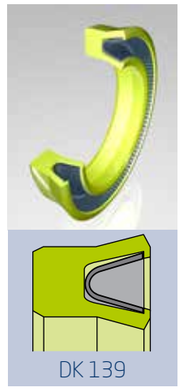
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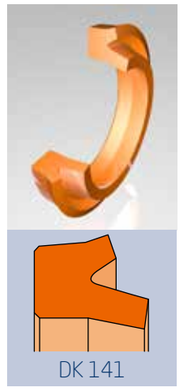
DK 140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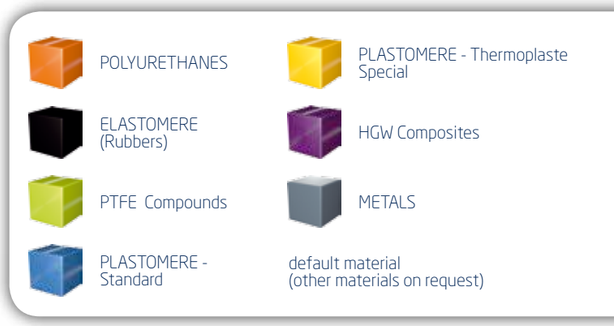
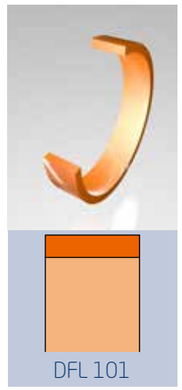


Schematic Representation
Special Profiles on Request!

Gaskets

Gaskets are generally used for static sealing, e.g. on the inside of pistons or on the bolted connection from the head section to the pipe. By offering the most diverse of geometries, constructors in this sector have a great leeway.

The selection of geometry in these three sectors predominantly results from the system construction.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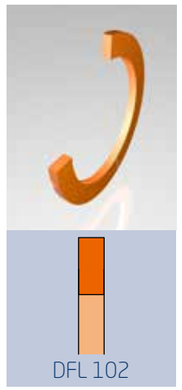
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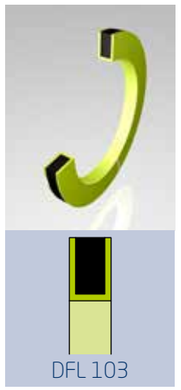
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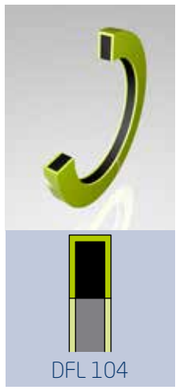
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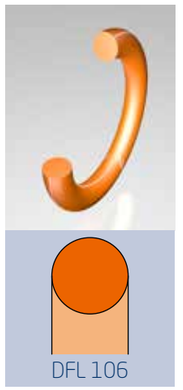
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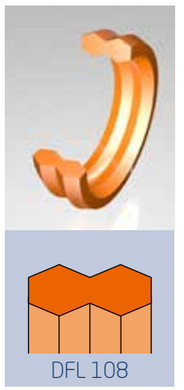
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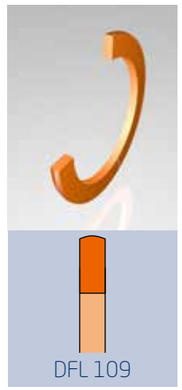
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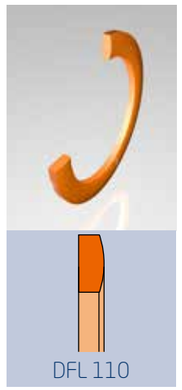
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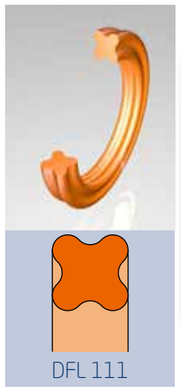

DFL 111

POLYURETHANES

PLASTOMERE - Thermoplaste Special

ELASTOMERE (Rubbers)

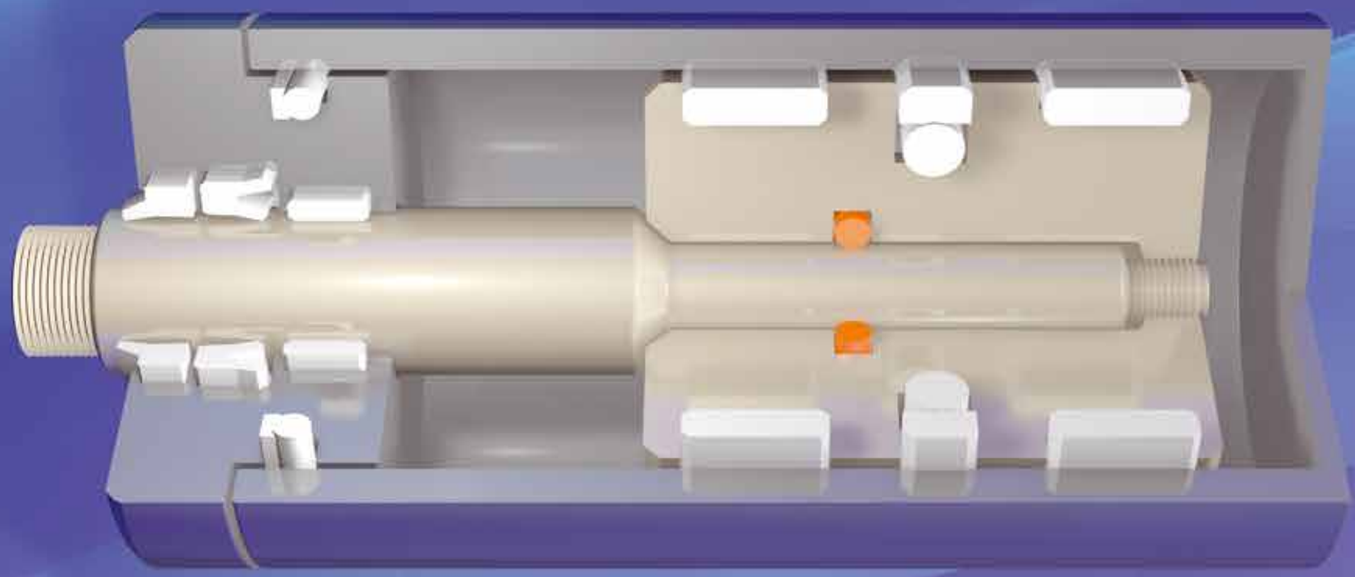
HGW Composites

PTFE Compounds

METALS

PLASTOMERE - Standard

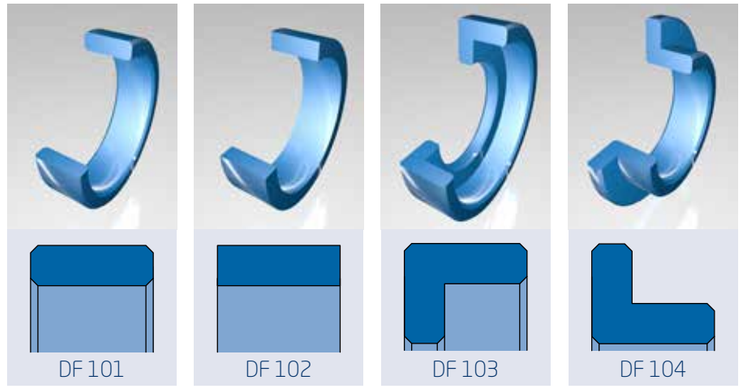
default material
(other materials on request)



Schematic Representation
Special Profiles on Request!

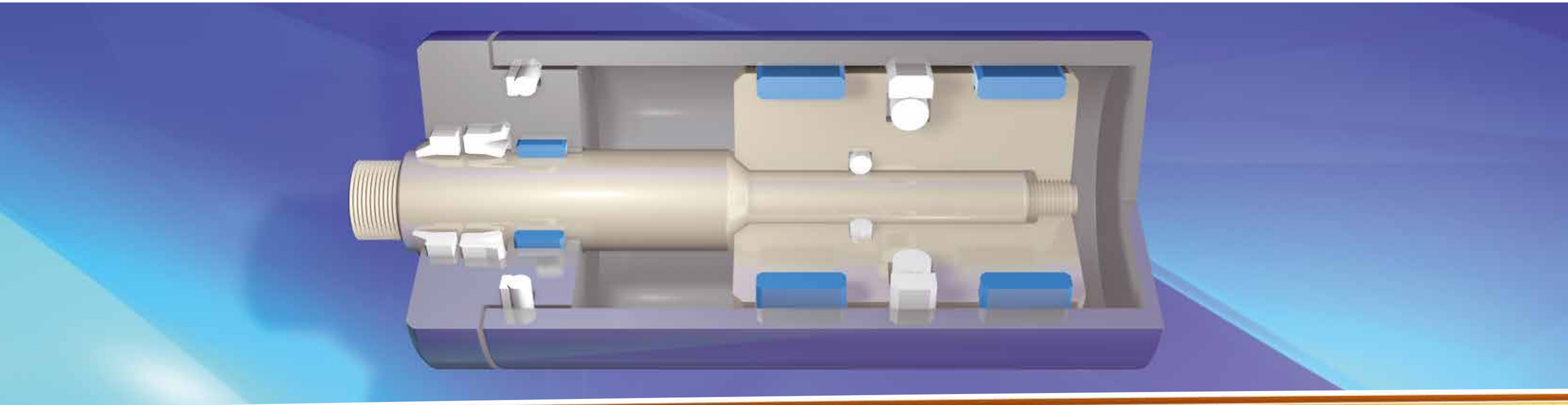
Guide Rings

Guide rings have the function of exactly aligning the piston rod and the piston in the cylinder liner. Guide elements are very important components in the overall sealing system. Without an exact guide the lifespan of the rod or piston seal would be very much reduced.



- POLYURETHANES
- ELASTOMERE (Rubbers)
- PTFE Compounds
- PLASTOMERE - Standard
- PLASTOMERE - Thermoplaste Special
- HGW Composites
- METALS

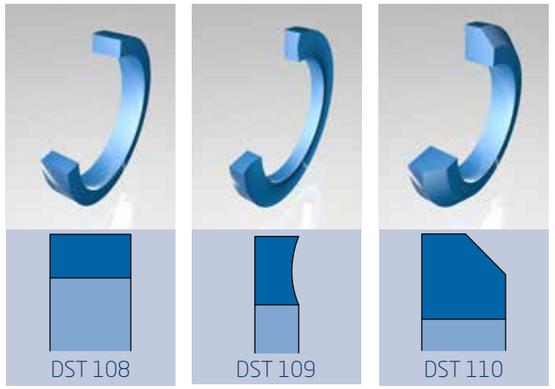
default material
(other materials on request)



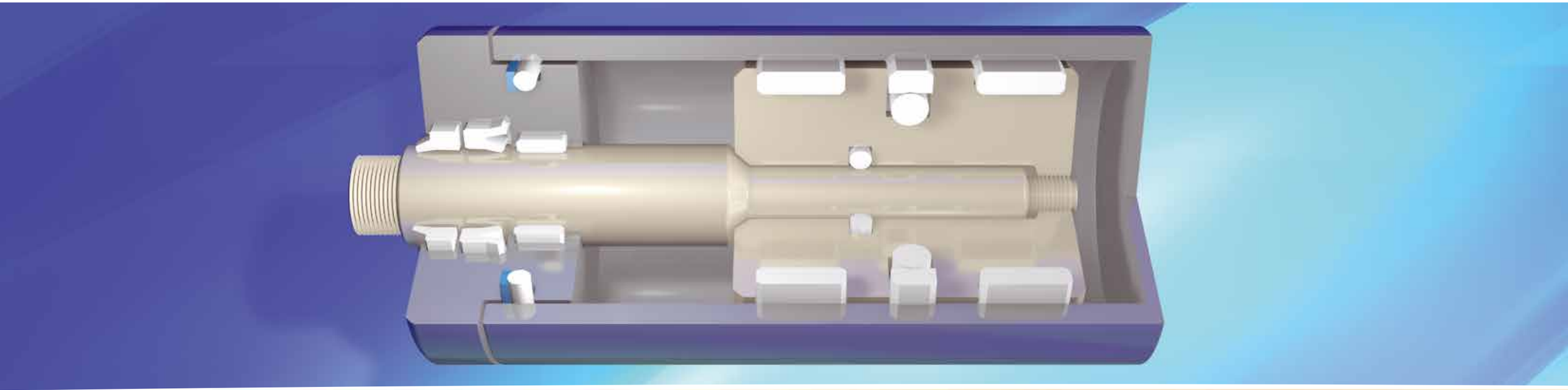
Schematic Representation
Special Profiles on Request!

Back-up Rings

Back-up rings are predominantly used to minimise the gap dimensions resulting from the manufacture or wear of metallic components. Using tools (multi-component geometries with the aid of elastomers or thermoplasts) the back-up rings become a real auxiliary device in the sealing sector.



POLYURETHANES
PLASTOMERE - Thermoplaste Special
ELASTOMERE (Rubbers)
HGW Composites
PTFE Compounds
METALS
PLASTOMERE - Standard
default material (other materials on request)



Rotary Reals

A rotary seal guarantees that a rotating shaft stressed by an oil bath on the inside is externally impermeable. This appears simple at first glance but after closer observation it soon becomes obvious that this is the most complex component in the entire sealing technology sector. This is why new technologies are constantly being developed globally by all manufacturers in order to guarantee the 'leakiness' of rotating shafts for the ever greater requirements of the various industrial sectors.

Factors when selecting a rotary seal

- Dirt contamination in the ambient area
- Spatial requirements
- Open or closed installation area
- Maximum revolutions per minute to calculate sliding velocity
- Pressure load or pressure-free use
- Material of the opposing body (shaft, etc.)
- Min./max. temperature load
- Exact specification of medium (important for selection of material)

Schematic Representation
Special Profiles on Request!


DR 101


DR 102


DR 103


DR 104


DR 105


DR 106


DR 107


DR 108


DR 109


DR 110


DR 111


DR 112


DR 113


DR 115


DR 116


DR 117


DR 118


DR 119


DR 120


DR 120-F


DR 121


DR 201


DR 202


DR 203


DR 204


DR 205


DR 206


DR 207

POLYURETHANES

ELASTOMERE (Rubbers)

PTFE Compounds

PLASTOMERE - Standard

PLASTOMERE - Thermoplaste Special

HGW Composites

METALS

default material (other materials on request)

PLASTOSEAL®

Plastoseal® Material											
Material	Designation	Colour	Hardness	Hardness	Temp. °C	Temp. °C	Temp. °C	Temp. °C	Pressure	Sliding speed	FDA/
Groups		Standard	Shore A ± 2	Shore D ± 3	min.	max.	water/ steam	short hot air	max. bar *	max. m/ sec. *	KTW
POLYURETHANES	H-PU (U2)	red	95 ±2	48 ±3	-20	+115			400	0,5 - 5	FDA
	H-PU (U2) 55D	yellow		55 ±3	-20	+115			400	0,5 - 5	
	PU93	green	94 ±2	47 ±3	-30	+110			400	0,5 - 5	
	C-HPU	red	96 ±2	50 ±3	-37	+110			400	0,5 - 5	FDA
	C-HPU KTW	nature	96 ±2	48 ±3	-37	+110			400	0,5 - 5	FDA/KTW
	C-HPU 57D	yellow		57 ±3	-30	+110			400	0,5 - 10	
	C-HPU 72D	black		70 ±3	-20	+110			400	0,5 - 10	
	LT-PU+	blue	96 ±2	50 ±3	-55	+110			400	0,5 - 5	
	SL-PU	darkgrey	96 ±2	48 ±3	-37	+110			400	0,7 - 6	
H-PU Special	H-PU93A **Mokka-MDI**	turquois	93 ±2	47 ±2	-30	+130			400	0,5 - 5	
	H-PU57DG **Mokka-MDI**	darkgrey		57 ±3	-30	+130			400	0,5 - 7	
	HT-PU	orange	96 ±2	50 ±3	-35	+135			400	0,5 - 5	
ELASTOMERE (Rubbers)	NBR	black	85 ±5		-30	+110			160	0,5 - 10	
	NBR 73	black	75 ± 5		-30	+90			120	0,5 - 10	
	NBR white	white	85 ±5		-30	+110			160	0,5 - 10	
	H-NBR	green	85 ±5		-20	+150	+120	+180	160	0,5 - 10	
	H-NBR 90A	black	90 ±5		-20	+150	+120	+180	200	0,5 - 10	
	H-NBR ED	black	87 ±5		-15	+150	+110	+180	160	0,5 - 10	
	T-NBR	black	80 ±5		-50	+110			160	0,5 - 10	
	EPDM peroxyd	black	85 ±5		-45	+130	+130	+180	160	0,5 - 10	
	EPDM white FDA	white	82 ±5		-45	+130	+130	+150	160	0,5 - 10	FDA
	EPDM KTW/FDA	black	81 ±5		-40	+130	+130	+150	160	0,5 - 10	FDA/KTW
	SILICON - MVQ	blue	85 ±5		-60	+200		+300	160	0,5 - 5	
	SILICON nature FDA - MVQ	translucent	85 ±5		-60	+200	+110	+300	160	0,5 - 5	FDA
	SILIKON white FDA - MVQ	white	85 ±5		-60	+200	+110	+300	160	0,5 - 5	FDA
	FPM (VITON ®)	brown	82 ±5		-20	+220		+300	160	0,5 - 15	
	FPM black (VITON ®)	black	85 ±5		-20	+210		+280	160	0,5 - 20	
	FPM FDA (VITON ®)	brown	80 ±5		-20	+220		+300	160	0,5 - 20	FDA
	FPM ED (VITON ®)	black	85 ±5		-20	+220		+300	160	0,5 - 20	
	TFE/P (AFLAS ®)	black	85 ±5		-5	+200	+170	+230	160	0,5 - 10	
	AFLAS ® 90A	black	90 ±5		-5	+200	+170	+230	160	0,5 - 10	

Plastoseal® Material											
Material	Designation	Colour	Hardness	Hardness	Temp. °C	Temp. °C	Temp. °C	Temp. °C	Pressure	Sliding speed	FDA/
Groups		Standard	Shore A ± 2	Shore D ± 3	min.	max.	water/ steam	short hot air	max. bar *	max. m/ sec. *	KTW
PTFE Compounds	PTFE virgin 100% Polytetrafluorethylen	white		55 ±3	-200	+260			160	0,4 - 4	FDA
	PTFE 1 + 15% Glas/ 5% MoS2	grey		58 ±3	-200	+260			400	0,4 - 4	
	PTFE 2 + 40% Bronce	brown		60 ±3	-200	+260			400	0,4 - 4	
	PTFE D05 + 1% Pigmente	turquois		57 ±3	-200	+260			200	0,4 - 4	
	PTFE D05 GF + 1% Pigmente / 15% Glas	turquois		60 ±3	-200	+260			400	0,4 - 4	
	PTFE D08 GF glas + Pigmente	orange		62 ±3	-200	+260			200	0,4 - 4	
	PTFE D46 + 46% Bronce / Pigmente	bronce blue		63 ±3	-200	+260			400	0,4 - 4	
	PTFE Carbon + 25% Carbon	black		67 ±3	-200	+260			350	0,4 - 4	
	PTFE E-CARBON + Carbon / Additive	black		60 ±3	-200	+260			400	0,4 - 4	
	PTFE GRAPHITE + 15% Graphite	darkgrey		60 ±3	-200	+260			300	0,4 - 4	
	PTFE EKONOL® + 10% Ekonol	cream		56 ±3	-200	+260			300	0,4 - 4	
	PTFE 25% GF + 25% Glasfiber	grey/white		60 ±3	-200	+260			400	0,4 - 4	FDA
	PTFE TFM FDA	white		57 ±3	-200	+260			300	0,4 - 4	FDA
	PTFE cond. FDA 1% conductive additiv	black		57 ±3	-200	+260			300	0,4 - 4	FDA
	PTFE PEEK +10% Peek	cream		60 ±3	-200	+260			400	0,4 - 4	FDA
PLASTOMERE - STANDARD	POM	white/black		82 ±3	-45	+100			400	0,4 - 4	FDA
	PA	nature		77 ±3	-40	+110			400	0,4 - 4	
	PE3 (HD)	nature		63 ±3	-50	+80			350	0,4 - 4	
	UHMW-PE (PE10)	nature / green		61 ±3	-200	+80			300	0,4 - 4	FDA
PLASTOMERE - Thermoplaste SPECIAL	PA6.6 - PA12 - PVC - PP - PPE - PVDF - PCTFE - PEI - PI - PEEK - PET - PSU - PAI - PC - PMMA - etc. order as necessary Datasheets										
HGW Composites	Based - PHENOLIC	Datasheets on request									
	Based - GLAS FIBER										
	Based - GLAS FABRIC										
	Based - CARBON FIBER										
METALS	ALU - ALF37	Datasheets on request									
	ROTGUSS - RG7										
	MESSING - Ms58										
	SINTERBRONCE										
	NIRO - 1.4301/1.4571										

Special paint in the POLYURETHANE sector - Special RUBBER MATERIALS – Special mixtures in the PTFE sector - Special materials in the PLASTOMERS//THERMOPLASTS sector on REQUEST.

The specified values are test results of test bodies and cannot be transferred to finished products (seals, turning or milling components). PLASTOSEAL is not liable for products manufactured from these materials.

* depends on application and geometry

industrial plastics and sealing parts

10/2014

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