

# PISTON SEALS



Piston seals have the function of sealing the piston against the cylinder tube to ensure a pressure buildup in the piston chamber. Here the sealing material and the profile of the piston seal must be selected on the basis of the application and the conditions of use.

## SEALING MATERIALS

### **NBR (Acrylonitrile butadiene rubber)**

Due to their good mechanical properties and their resistance to lubricating oils and greases based on mineral oils, seals made of NBR are suited to a broad range of hydraulic applications.

### **TPU (Thermoplastic polyurethane)**

TPU stands out for its mechanical strength and resistance to ozone and aging. TPU is only hydrolysis-resistant up to 50°C.

### **PTFE (Polytetrafluoroethylene)**

PTFE has very good slide characteristics and can be used in a wide range of temperatures. In addition, PTFE exhibits nearly unlimited resistance to chemicals, ozone and aging. Fillers such as bronze, graphite and coal influence the characteristics of the material in line with the requirements.

## MEDIA RESISTANCE

Nitrile butadiene rubber (NBR), thermoplastic polyurethane (TPU) and polytetrafluoroethylene (PTFE) are resistant to

- Hydraulic oils in accordance with DIN 51524 Part 1 - 3
- Lubricating oils and greases based on mineral oil
- Fire-resistant hydraulic fluids: HFA, HFB, HFC in accordance with VDMA 24317

## APPLICATIONS

















Due to the wide range of piston-seal geometries, these products can be used in diverse ways, such as in

- Agricultural machinery
- Construction machinery
- Truck-loading cranes
- Injection-molding machines
- Handling devices
- Industrial trucks
- Standard cylinders
- Presses
- Switch valves
- and many more

## DIMENSIONS

The currently available dimensions can be found on our website [dichtomatik.fst.com](http://dichtomatik.fst.com) or on our online ordering platform **EASY**.

## Axial Seals

Profile	Type	Material	Hardness (Shore A)	Temperature (°C)	Glide speed (m/s)	Pressure MPa (bar)
	KNA28	TPU	95	-40 to +100	≤ 0,5	40 (400)
	N25	TPU	95	-40 to +100	≤ 0,5	30 (300)
	KNA23	NBR	90	-30 to +100	≤ 0,5	16 (160)
	N21	NBR	90	-30 to +100	≤ 0,5	16 (160)
	N36	TPU	95	-40 to +100	≤ 0,5	40 (400)
	N05	NBR	80	-30 to +100	≤ 0,5	20 (200)
	KNA16	NBR	80	-30 to +100	≤ 0,5	50 (500)
	KPOR30	PTFE		-30 to +100	≤ 15	40 (400)
	KPOR31	PTFE		-30 to +100	≤ 15	40 (400)
	KK71	PTFE		-30 to +100	≤ 1,5	40 (400)
	KK03	NBR	80	-30 to +100	≤ 0,5	40 (400)
	KK22	NBR	90	-30 to +100	≤ 0,5	40 (400)
	KDS01	NBR F	90	-30 to +100	≤ 0,5	40 (400)
	KNA44	PTFE		-150 to +250	≤ 15	35 (350)
	K84	TPU	95	-30 to +100	≤ 0,5	40 (400)
	K70	TPU	95	-30 to +100	≤ 0,5	25 (250)

**Note:** The values indicated here are maximum values. All of them must not be achieved simultaneously.

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