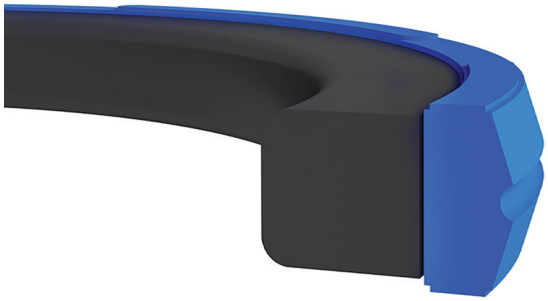
K49
Piston Seal



K49 is a two-piece double-acting piston seal designed for heavy-duty hydraulic applications. It consists of a high-performance polyurethane sealing ring and an NBR elastomer energizer. The polyurethane ring offers excellent resistance to wear, pressure, and extrusion, while the NBR energizer ensures consistent preload and reliable sealing performance under demanding operating conditions.

Advantages
- Good sealing effect
- High extrusion resistance
- Simple installation
- Groove dimensions acc.ISO 7425-1

Application
- Construction machinery
- Injection moulding machines
- Mobile machinery
- Forklifts
- Agricultural machinery
- Standard industrial cylinders

Operating Conditions

MOTION:	Linear		
PRESSURE (bar):	400 bar (max)		
SPEED (m/s):	0.5 m/s (max)		
TEMPERATURE (°C):	-30/+105 °C	+5/+50 °C	-30/+40 °C
MEDIA TYPE:	Mineral Oils	HFA /HFB	HFC

NOTE: The above values (speed, pressure, temperature) are maximum values, all cannot be used at the same time.

Material Information

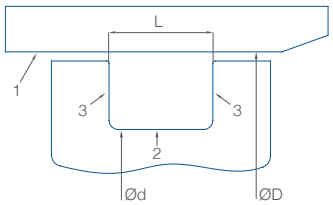
Sealing Ring	Energizer Ring	Remarks
Polyurethane-PU6005	Elastomer-NB8001	Standard produced material code

Note: In the special application conditions (temperature, media, etc.) Can be produced from different materials. You can refer to Table 2.6 and Table 2.10 for details or you can contact our sales department.

Installation Information

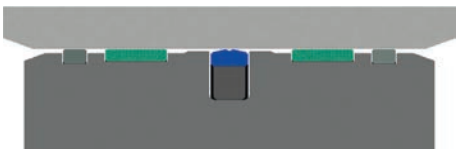
Easily assembled on one-piece piston. Using piston installation tools is recommended. It is very important that the assembly tools must be of soft material and have no sharp edges. Before installation the sealing element must be oiled with system oil. (See Installation instructions - Page 51-517)

Surface Roughness



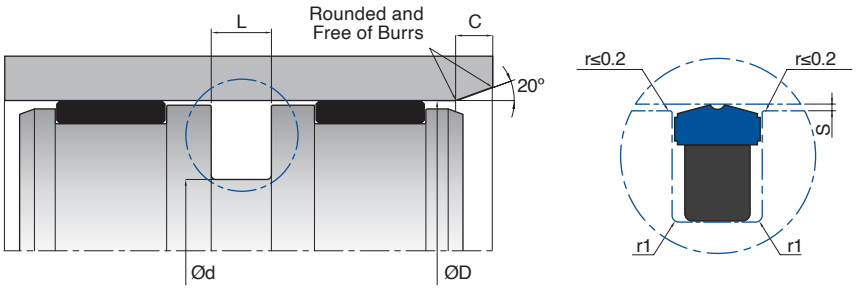
	1 (rod)	2 (groove base)	3 (groove flanks)
Ra	0.1-0.4 µm	0.2-1.6 µm	0.2-3.2 µm
Rmax	< 2.5 µm	< 6.3 µm	< 15 µm
Rmr	When C = 0.25xRz on the dynamic work surface and reference line C_{ref} = 5% , the working surface contact area should be approximately between 50% and 70%.		

Sample Design



NOTES: In heavy duty applications, together with composite bearings at the piston head, it is recommended to add PTFE guide elements to both sides of the piston head to protect the main seal from contamination in the oil.

K49 Piston Seal



Cross Section (mm)	Max. Permissible Sealing Gap Value "S_{max}" (mm) for K49			
	160 bar	250 bar	320 bar	400 bar
3.2	0.30	0.20	-	-
4.2	0.40	0.30	0.20	-
6.3	0.50	0.40	0.30	0.25
8.1	0.60	0.45	0.40	0.35

The S_{max} value given here should be calculated from the extrusion gap formula on page 64. It is recommended to select the extrusion gap value below S_{max} values.

KASTAŞ NO	D (H9)	d (h9)	L (+0.2/-0)	r1	C	KASTAŞ CODE
K49 025-017.5	25	17.5	3.2	0.5	2	10021121
K49 028-020.5	28	20.5	3.2	0.5	2	10021122
K49 032-021	32	21	4.2	0.5	2.5	10021123
K49 032-024.5	32	24.5	3.2	0.5	2	10021124
K49 035-024	35	24	4.2	0.5	2.5	10021125
K49 040-029	40	29	4.2	0.5	2.5	10021126
K49 045-034	45	34	4.2	0.5	2.5	10021127
K49 050-039	50	39	4.2	0.5	2.5	10021130
K49 055-039.5	55	39.5	6.3	0.5	3	10021132
K49 055-044	55	44	4.2	0.5	2.5	10021133
K49 060-044.5	60	44.5	6.3	0.5	3	10021135
K49 060-049	60	49	4.2	0.5	2.5	10021136
K49 063-047.5	63	47.5	6.3	0.5	3	10021138
K49 063-052	63	52	4.2	0.5	2.5	10021139
K49 065-049.5	65	49.5	6.3	0.9	4	10021140
K49 065-054	65	54	4.2	0.9	2.5	10021141
K49 070-054.5	70	54.5	6.3	0.9	4	10021142
K49 070-059	70	59	4.2	0.9	2.5	10021143
K49 075-059.5	75	59.5	6.3	0.9	4	10021144
K49 075-064	75	64	4.2	0.9	2.5	10021145
K49 080-064.5	80	64.5	6.3	0.9	4	10021146
K49 085-069.5	85	69.5	6.3	0.9	4	10021148
K49 090-069	90	69	10.5	0.9	7	10021149
K49 090-074.5	90	74.5	6.3	0.9	4	10021150
K49 095-079.5	95	79.5	6.3	0.9	4	10021151
K49 100-079	100	79	8.1	0.9	5	10021152
K49 100-084.5	100	84.5	6.3	0.9	4	10021154
K49 105-89.5	105	89.5	6.3	0.9	4	10021156
K49 110-089	110	89	8.1	0.9	5	10021157
K49 110-094.5	110	94.5	6.3	0.9	4	10021158
K49 115-094	115	94	8.1	0.9	5	10021159
K49 120-099	120	99	8.1	0.9	5	10021160
K49 120-099/1	120	99	10.5	0.9	7	10021161
K49 125-104	125	104	8.1	0.9	5	10021162
K49 125-104/1	125	104	10.5	0.9	7	10021163
K49 130-109	130	109	8.1	0.9	5	10021164
K49 140-119	140	119	8.1	0.9	5	10021165
K49 150-129	150	129	8.1	0.9	5	10021167
K49 150-129/1	150	129	10.5	0.9	7	10021168
K49 160-139	160	139	8.1	0.9	5	10021169
K49 180-159	180	159	8.1	0.9	5	10021170
K49 200-179	200	179	8.1	0.9	5	10021171