K40
Piston Seal



K40 is a single-acting piston seal consisting of a thermoplastic polyurethane sealing ring and a thermoplastic POM backup ring. The notched geometry of the sealing ring is specifically designed to eliminate hydrodynamic pressure buildup, ensuring stable performance and long service life in dynamic hydraulic systems.

Advantages
- Good sealing effect
- High extrusion resistance
- Long service life

Application
- Heavy duty cylinders
- Mobile machinery
- Scrap and metal industry
- Long stroke cylinders

Operating Conditions

MOTION:	Linear		
PRESSURE (bar):	400 bar (max)		
SPEED (m/s):	0.5 m/s (max)		
TEMPERATURE (°C):	-35/+100 °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

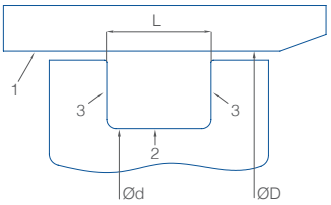
U-ring	Back-up Ring	Remarks
Polyurethane-PU9401	Thermoplastic-PM9901	Standard produced material code
Polyurethane-PU9411	Thermoplastic-PA9910	Material code used for high temperatures

Note: In the special application conditions (temperature, media, etc.) Can be produced from different materials. You can refer to Table 2.7 and Table 2.10 for details or you can contact our sales department.

Installation Information

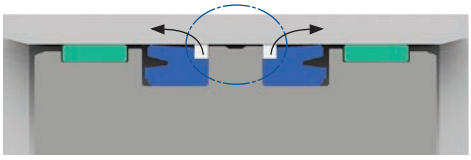
Using piston seal installation tools is recommended. Before installation all individual parts of the seal must be oiled with system oil or suitable greases. Tube chamfers should be suitable with catalogue values, or conical chamfering tools should be used. (See Installation instructions - Page 51-57)

Surface Roughness



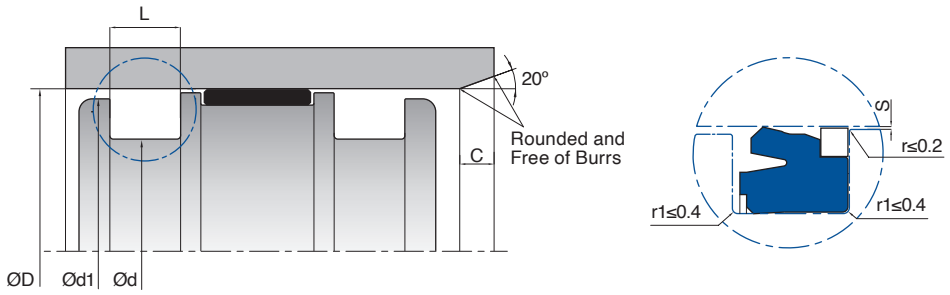
	1 (rod)	2 (groove base)	3 (groove flanks)
Ra	0.1-0.4 μm	0.2-1.6 μm	0.2-3.2 μm
Rmax	< 3.2 μm	< 6.3 μm	< 15 μm
Rmr	When C = 0.25xRz on the dynamic work surface and reference line C_{ref} = 5%, the working surface contact area should be approximately between 50% and 70%.		

Sample Design



NOTE: K40 piston sealing elements can be used back to back in double acting systems. Thanks to its improved design, it prevents the accumulation of hydrodynamic pressure between the two u-rings and provides safe operation

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Cross Section (mm)	Max. Permissible Sealing Gap Value "S_{max}" (mm) for K40			
	160 bar	250 bar	320 bar	400 bar
≤7.5	0.80	0.70	0.50	0.40
>7.5	1.00	0.85	0.75	0.65

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. In cases where the system temperature is above 60 °C, it is recommended to reduce the extrusion gap value.

KASTAŞ NO	D (H8)	d (h11)	L (+0.2/-0)	$d1_{min}$	C	KASTAŞ CODE
K40-014	14	8	6	10	2	10018961
K40-036	36	27	6	32	3	10018963
K40-040	40	25	11	35	4	10018964
K40-045	45	30	11	40	4	10018965
K40-045/1	45	30	9.5	40	4	10018966
K40-050	50	35	11	45	4	10018968
K40-050/1	50	35	9.5	45	4	10018969
K40-050/2	50	30	12	45	5	10018970
K40-055	55	40	11	50	4	10018971
K40-055/1	55	40	9.5	50	4	10018972
K40-060	60	45	11	55	4	10018973
K40-060/1	60	45	9.5	55	4	10018974
K40-063	63	48	10	58	4	10018975
K40-063/1	63	50	10	58	4	10018976
K40-063/2	63	48	9.5	58	4	10018977
K40-063/3	63.5	50.8	10.5	58	4	10018978
K40-065	65	50	11	60	4	10018980
K40-065/1	65	45	13	60	5	10018981
K40-070	70	50	13	64	5	10018982
K40-070/2	70	55	10	64	4	10018984
K40-070/3	70	50	16.5	64	5	10018985
K40-075	75	55	13	69	5	10018986
K40-080	80	60	13	74	5	10018987
K40-080/1	80	60	12.5	74	5	10018988
K40-085	85	70	9.3	79	4	10018989
K40-090	90	70	13	84	5	10018990
K40-100	100	80	13	94	5	10018991
K40-100/1	100	88	8.5	94	4	10018993
K40-110	110	90	13	104	5	10018994
K40-120	120	100	13	114	5	10018996
K40-125	125	100	16.2	119	6.5	10018997
K40-140	140	115	15	134	6.5	10018998
K40-140/1	140	120	12.5	134	5	10019000
K40-150	150	120	19	144	7.5	10019001
K40-170	170	150	12.5	164	5	10019002
K40-180	180	150	19	174	7.5	10019003
K40-220	220	190	17	212	7.5	10019004
K40-240	240	210	17	232	7.5	10019005