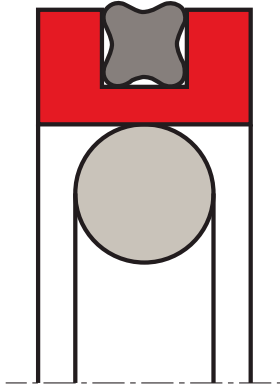


piston seal K61

seal spec



description

the K61 is a double-acting seal consisting of a seal ring of high-grade modified PTFE filled material, a X-Ring seal and an O-Ring as energizing element. the K61 seal ring and the X-Ring seal together assume the dynamic sealing function whilst the O-Ring performs the static sealing function.

application



not bolded symbols; please consult our technical for application limitations

category of profile

machined or molded/standard/trade product.

double acting

the K61 seal is designed for use as a piston seal.

area of application: hydraulics

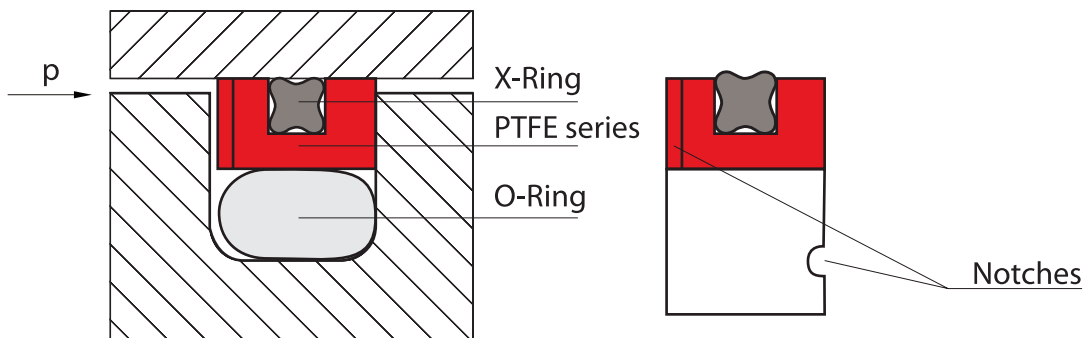
the K61 is the recommended sealing element for double acting pistons of accumulators and positioning and holding cylinders for:

- machine tools
- presses
- accumulators
- stabilisers
- heavy duty suspension cylinders

media: for all common hydraulic fluids, including bio-oils and gases.

design

the K61 is supplied as standard with radial notches on both sides. these ensure direct pressurizing of the seal under all operating conditions.



**advantages**

- high sealing effect in applications requiring media separation, e.g. fluid/fluid or fluid/gas
- double security through the combination of low-friction special materials with elastomer seals
- simple groove design, small installation space, interchangeable with K08-D, K08-SA and K08-E installation according to ISO 7425/1
- outstanding sliding properties, no stick-slip effect

operating parameters & material for standard application:

material		temperature	max. surface speed	max. pressure ¹
sealing element	energizer			
s-mart PTFE bronze	NBR 70 Shore A	-30°C ... + 100°C	2 m/s	400 bar (40 MPa)
	NBR 70 Shore A low temp.	-45°C ... + 100°C	2 m/s	400 bar (40 MPa)
	FKM 70 Shore A	-10°C ... + 200°C	2 m/s	400 bar (40 MPa)

for hydraulic components in mineral oils or medium with good lubricating performance.

standard material for hydraulics, high compressive strength, good sliding and wear properties, good extrusion resistance, BAM tested.

mating surface material: steel tubes, steel hardened cast iron.

colour: greyish to dark brown.

operating parameters & material for special application:

material		temperature	max. surface speed	max. pressure ¹
sealing element	energizer			
PTFE + carbon graphite (carbon, graphite filled)	NBR 70 Shore A	-30°C ... + 100°C	2 m/s	250 bar (25 MPa)
	NBR 70 Shore A low temp.	-45°C ... + 100°C	2 m/s	250 bar (25 MPa)
	FKM 70 Shore A	-10°C ... + 200°C	2 m/s	250 bar (25 MPa)
	EPDM ² 70 Shore A	-45°C ... + 145°C	2 m/s	250 bar (25 MPa)

for special applications requiring other material combinations, please contact our technical department for further information.

for all lubricating and non-lubricating hydraulic fluids, hydraulic oils without zinc, water hydraulic, soft mating surfaces. Surface texture not suitable for gases.

mating surface material: steel, cast iron, stainless steel, aluminium, bronze, alloys

colour: grey

operating parameters & material for standar application:

material		temperature	max. surface speed	max. pressure ¹
sealing element	energizer			
PTFE + carbon graphite (carbon, graphite filled)	NBR 70 Shore A	-30°C ... + 100°C	2 m/s	400 bar (40 MPa)
	FKM 70 Shore A	-10°C ... + 200°C	2 m/s	400 bar (40 MPa)
	EPDM ² 70 Shore A	-45°C ... + 145°C	2 m/s	400 bar (40 MPa)

for hydraulic components in mineral oils or medium with good lubricating performance.

for oil hydraulic and pneumatic for all lubricating and non-lubricating fluids, high extrusion resistance, good chemical resistance, BAM tested

mating surface material: steel, stainless steel

colour: black

the stated operation conditions represent general indications. it is recommended not to use all maximum values simultaneously. surface speed limits apply only to the presence of adequate lubrication film.

¹ pressure ratings are dependent on the size of the extrusion gap.

² attention: not suitable for mineral oils!

gap dimension

bore diameter - D (H9)		d (h9)	L + 0,2	r	max. permissible gap dimension - s			O-Ring cross section	X-Ring cross section
recommended range	extended range				10 MPa	20 MPa	40 MPa		
15 - 39.9	40 - 79.9	D -11,0	4,2	1,0	0,25	0,15	0,10	3,53	1,78
40 - 79.9	80 - 132.9	D -15,5	6,3	1,3	0,30	0,20	0,15	5,33	1,78
80 - 132.9	133 -252.9	D -21,0	8,1	1,8	0,30	0,20	0,15	7,00	2,62
133 -252.9	--	D -24,5	8,1	1,8	0,30	0,20	0,15	7,00	2,62
253 -462.9	--	D -28,0	9,5	2,5	0,45	0,30	0,25	8,40	3,53
463 -700.0	--	D -35,0	11,5	3,0	0,55	0,40	0,35	10,00	5,33

important note:

the above data are maximum value and can't be used at the same time. e.g. the maximum operating speed depend on material type, pressure, temperature and gap value. temperature range also dependent on medium.



surface quality

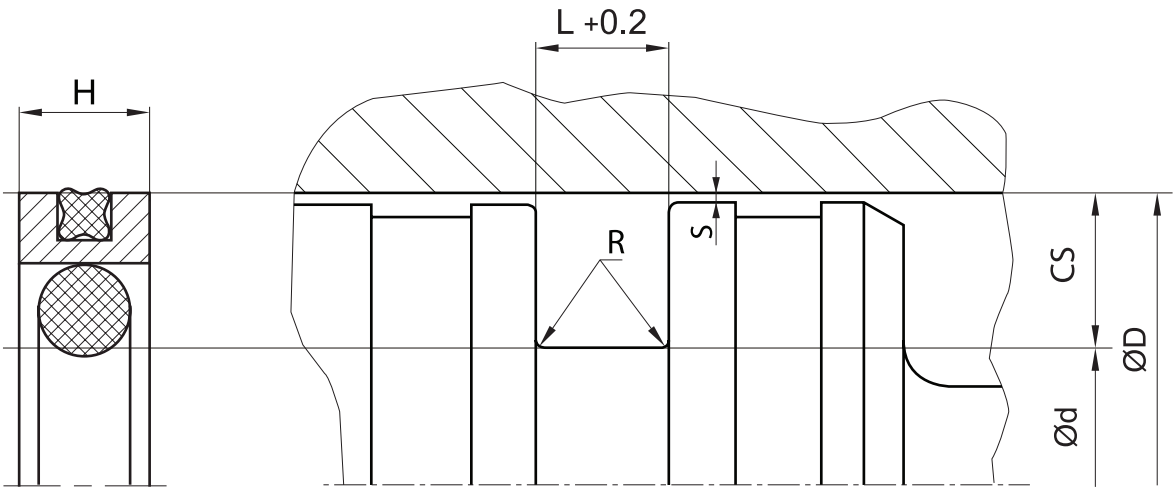
surface roughness	material	Rtmax [μm]	Rz DIN [μm]	Ra [μm]
mating surface	PTFE +	0.63 - 2.50	0.40 - 1.60	0.05 - 0.20
	PU & Rubber	1.00 - 4.00	0.63 - 2.50	0.10 - 0.40
groove surface		< 16	< 10.0	< 1.6

tolerance recommendation

seal housing tolerances	
Ød	h9
ØD	H9

seal & housing recommendations

please note that we are able to produce those profiles to your specific need or any non standard housing. for detail measurements, please see seal-mart catalog...



don't hesitate to contact our technical department for further information or for special requirements (temperature, speed etc.), so that suitable materials and/or designs can be recommended.