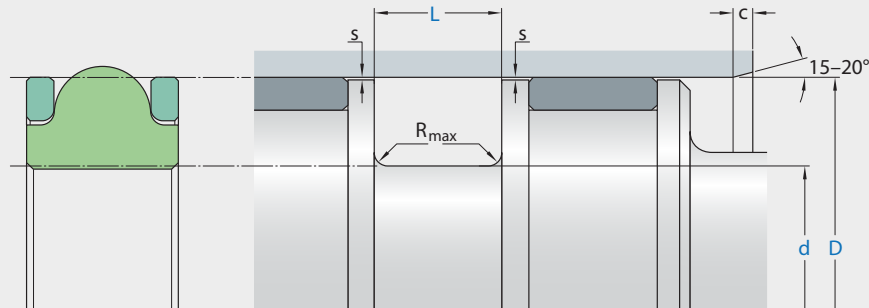


## K20-R



Ordering dimensions in blue

Surface roughness	$R_{tmax}$	$R_a$
Sliding surface	$\leq 2,5 \mu m$	$0,05-0,2 \mu m$
Bottom of groove	$\leq 6,3 \mu m$	$\leq 1,6 \mu m$
Groove face	$\leq 15 \mu m$	$\leq 3 \mu m$

Bearing area: 50–95% and a cutting depth of  $0,5 R_z$ , based on  $C_{ref} = 0\%$

### Standard dimensions

D	H9	static	dynamic	d	L	$R_{max}$	c	$s^*$
over	incl.	over	incl.	h9	+0,25			
mm								
8	100	–	–	D – 2,70	4,5	0,2/0,4 <sup>1)</sup>	2	H9/f8
100	150	8	20	D – 4,36	6,5	0,2/0,4 <sup>1)</sup>	2	H9/f8
150	250	20	40	D – 6,00	7,4	0,2/0,4 <sup>1)</sup>	3	H9/f8
250	400	40	100	D – 9,06	10,1	0,2/0,4 <sup>1)</sup>	3,5	H9/f8
400	600	100	300	D – 11,88	12,8	0,2/0,4 <sup>1)</sup>	4,5	H9/f8
600		300	600	D – 17,00	17,5	0,2/0,4 <sup>1)</sup>	5	H9/f8

### application



not bolded symbols; please consult our technical for application limitations

\* Extrusion gap values shown above are valid for a temperature of 70 °C, higher temperatures require lower values.

<sup>1)</sup>  $d \leq 40 \text{ mm} \pm 0,2$ ;  $d > 40 \text{ mm} \pm 0,4$ .

## operating parameters & material

diameter range: up to 600 mm

material		temperature	max. surface speed	max. pressure <sup>1</sup>	hydrolysis	dry running	wear resistance
sealing element	back-up ring						
Ecorubber 1	Ecotal/Ecomid <sup>2</sup>	-30 °C ... +100 °C	0,5 m/s	700 bar (70 MPa)	-	-	O
Ecorubber H	Ecotal/Ecomid <sup>2</sup>	-25 °C ... +100 °C	0,5 m/s	700 bar (70 MPa)	+	O	+
Ecorubber 2	Ecopaek	-20 °C ... +200 °C	0,5 m/s	700 bar (70 MPa)	-	-	O
Ecorubber H	Ecopaek	-20 °C ... +150 °C	0,5 m/s	700 bar (70 MPa)	+	O	+
Ecorubber 2	Ecoflon 2	-25 °C ... +200 °C	0,5 m/s	700 bar (70 MPa)	-	-	O
Ecorubber H	Ecoflon 2	-25 °C ... +150 °C	0,5 m/s	700 bar (70 MPa)	+	O	+

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.

<sup>1</sup> pressure ratings are dependent on the size of the extrusion gap.

<sup>2</sup> Ecotal up to ø260 mm, Ecomid above ø260 mm.

<sup>3</sup> attention: not suitable for mineral oils!

++ ... particularly suitable

o ... conditional suitable

+ ... suitable

- ... not suitable

for detailed information regarding chemical resistance please refer to our „list of resistance“. for increased wear resistance and higher pressure range polyurethane materials in other systems are to be preferred, attention should be paid to restrictions in chemical and thermal resistance. for higher gliding speeds another sealing system should be used (e.g. PTFE materials).

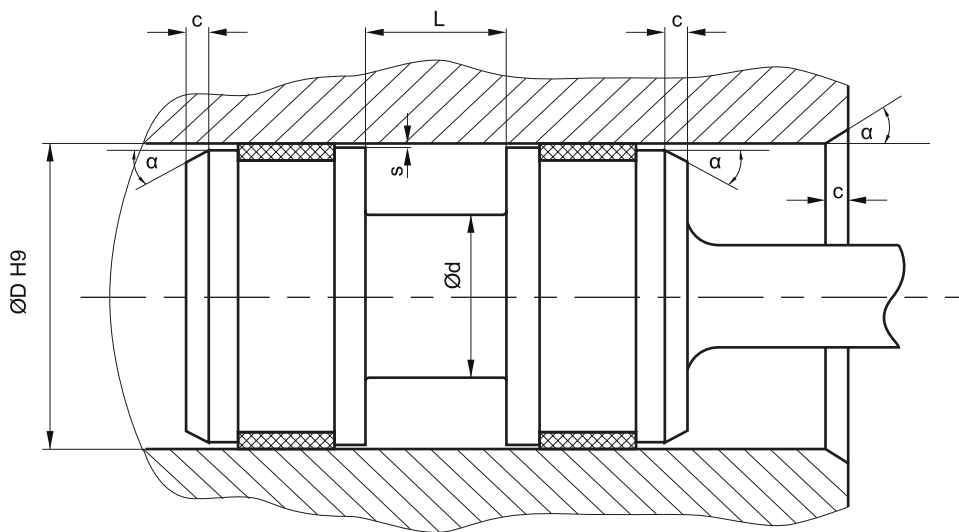
### note on special materials:

as the temperature limits are determined by POM, using special materials for the back up ring can expand the temperature limits.

### mode of installation

the sealing element should be slipped over the piston and snapped into the groove, followed by both backup elements. at installation, pay attention that the radius on the backup elements fits to the corresponding radius on the sealing element (nonsymmetric backup elements). the installation of the backup elements is generally trouble-free, at installation of the sealing element the material deformation should not exceed the value of 30%, otherwise the permanent deformation would be too large.

### recommended mounting space:



### insertion chamfer:

in order to avoid damage to the piston seal during installation, the piston and the housing is to be chamfered and rounded as shown in the "recommended mounting space" drawing. the size of chamfer depends on the seal type and profile width.

cs (mm)	c (mm)	
	α = 15° ... 20°	α = 20° ... 30°
2	2	1
3	3	1,5
4	3,5	2
5	4	2,5
6	4,5	3
7,5	5	4
10	6	5

instead of a chamfer, the piston can also be designed with a radius. recommended size of the radius is equal to size of chamfer (R=c).