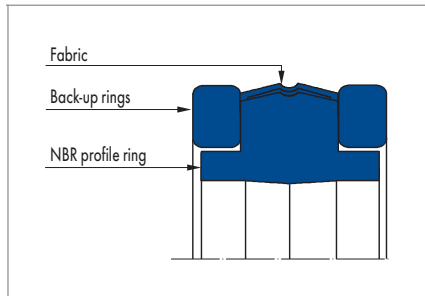


# MERKEL COMPACT SEAL SIMKO 520



## PRODUCT DESCRIPTION

Three-piece Merkel Compact Seal Simko 520 consisting of a fabric reinforced elastomeric sealing element and two guide back-up rings as gap sealing component.

## PRODUCT ADVANTAGES

Double-acting Merkel piston seal, preferably for spare parts requirement.

## APPLICATION

- Earth moving equipment
- Agricultural machinery
- Cranes
- Standard cylinders

## MATERIAL

### Sealing component

| Material           | Code | Hardness   |
|--------------------|------|------------|
| Nitrile rubber NBR | NBR  | 80 Shore A |

### Guide back-up rings

| Material         | Code       | Hardness |
|------------------|------------|----------|
| Polyacetal resin | POM 992020 | –        |

## OPERATING CONDITIONS

|            |        |
|------------|--------|
| Pressure p | 50 MPa |
|------------|--------|

|                 |         |
|-----------------|---------|
| Running speed v | 0,5 m/s |
|-----------------|---------|

| Medium/<br>Temperature | 80 NBR/POM         |
|------------------------|--------------------|
| Hydraulic oils HL, HLP | –30 °C ... +100 °C |
| HFA fluids             | +5 °C ... +60 °C   |
| HFB fluids             | +5 °C ... +60 °C   |
| HFC fluids             | –30 °C ... +60 °C  |
| HFD fluids             | –                  |

| Medium/<br>Temperature | 80 NBR/POM         |
|------------------------|--------------------|
| Water                  | +5 °C ... +90 °C   |
| HETG (rapeseed oil)    | –30 °C ... +80 °C  |
| HEES (synthetic ester) | –                  |
| HEPG (glycol)          | –30 °C ... +60 °C  |
| Mineral greases        | –30 °C ... +100 °C |

## DESIGN NOTES

Please observe our general design notes in → Technical Manual.

### Surface quality

| Peak-to-valley heights | R <sub>a</sub>  | R <sub>max</sub> |
|------------------------|-----------------|------------------|
| Sliding surface        | 0,05 ... 0,3 µm | ≤2,5 µm          |
| Groove base            | ≤1,6 µm         | ≤6,3 µm          |
| Groove flanks          | ≤3,0 µm         | ≤15,0 µm         |

Percentage contact area M<sub>r</sub> >50% to max. 90% at cutting depth c = Rz/2 and reference line C ref = 0%.

### Admissible gap dimension

The largest gap dimension occurring on the non-pressurised side of the seal in operation is of vital importance for the function of the seal. → Technical Manual.

| BR     | 26 MPa  | 32 MPa  | 40 MPa  | 50 MPa  |
|--------|---------|---------|---------|---------|
| ≤80 mm | 0,60 mm | 0,55 mm | 0,45 mm | 0,35 mm |
| >80 mm | 0,65 mm | 0,60 mm | 0,50 mm | 0,40 mm |

### Tolerances

The admissible gap width, tolerances, guide play and deflection of the guide under load are to be taken into account when designing d2. → Technical Manual.

| Nominal Ø D | D   | d   |
|-------------|-----|-----|
| ≤320 mm     | H11 | h11 |

## FITTING & INSTALLATION

Careful fitting is a prerequisite for the correct function of the seal. → Technical Manual.