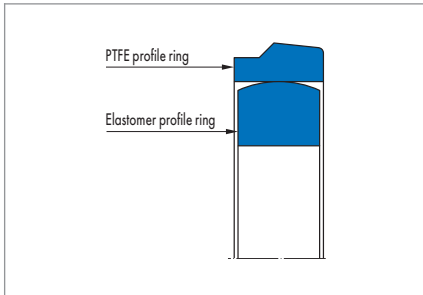


# Merkel Omegat OMK-ES



## Product description

Two-piece Merkel seal set for sealing pistons, consisting of one PTFE profile ring and an elastomer profile ring as a pre-load component.

## Product advantages

The Merkel Omegat OMK-ES is for use where sealing pistons have pressure on one side. The Merkel Omegat OMK-ES series is designed especially for large diameters and for heavy duty hydraulic applications

- Very high resistance to pressure
- Design prevents twisting
- Very good protection against extrusion
- High resistance to abrasion
- Good thermal conductivity
- Low friction, free of stick-slip
- High contact pressure due to elastomer profile ring

## Application

- Large cylinders
- Manipulators
- Presses
- Marine hydraulics
- Injection moulding machines
- Steel hydraulics engineering
- Rolling mills

## Material

### PTFE profile ring

Material	Code	Hardness
PTFE bronze compound	PTFE B602	-
PTFE glass MoS2 compound	PTFE GM201	-

### Elastomer profile ring

Material	Code	Hardness
Nitrile rubber NBR	80 NBR B246	80 Shore A

## Operating conditions

Pressure p	40 MPa
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Running speed v	5 m/s
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Medium/ Temperature	PTFE B602/80 NBR B246	PTFE GM201/80 NBR B246
Hydraulic oils HL, HLP	-30 °C ... +100 °C	-30 °C ... +100 °C
HFA fluids	-	+5 °C ... +60 °C
HFB fluids	-	+5 °C ... +60 °C
HFC fluids	-	-30 °C ... +60 °C
HFD fluids	-	-
Water	-	+5 °C ... +100 °C
HETG (rapeseed oil)	-30 °C ... +80 °C	-30 °C ... +80 °C
HEES (synthetic ester)	-30 °C ... +80 °C	-30 °C ... +80 °C
HEPG (glycol)	-30 °C ... +60 °C	-30 °C ... +60 °C
Mineral greases	-30 °C ... +100 °C	-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%.

# Merkel Omegat OMK-ES

## 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

Profile dimension	16 MPa	26 MPa	32 MPa	40 MPa
10,0 mm	0,60 mm	0,50 mm	0,40 mm	0,40 mm
>12,5 mm ... ≤17,5 mm	0,75 mm	0,65 mm	0,55 mm	0,55 mm
20,0 mm	0,80 mm	0,70 mm	0,60 mm	0,55 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
≤500 mm	H8	h8
>500 mm	H8	h7

## Fitting & installation

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