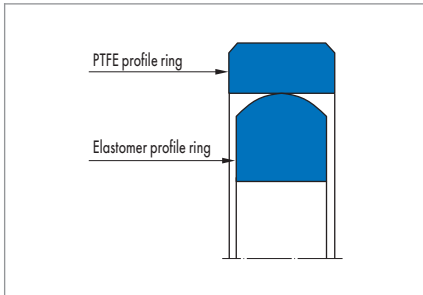


Merkel Omegat OMK-S



Product description

Two-piece Merkel seal set for sealing pistons consisting of one PTFE profile ring and one elastomer profile ring as a pre-load component. The seal set is designed for heavy duty hydraulic applications.

Product advantages

The Merkel Omegat OMK-S can be used where a piston has pressure on both sides and is designed especially for large diameters.

- 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 _a	R _{max}
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_r >50% to max. 90% at cutting depth c = Rz/2 and reference line C_{ref} = 0%.

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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.