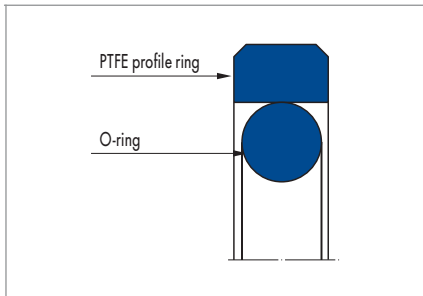


# MERKEL OMEGAT OMK-MR



## PRODUCT DESCRIPTION

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

## PRODUCT ADVANTAGES

Merkel Omegat OMK-MR is used where a piston has pressure on both sides. OMK-MR is provided with pressure-compensation grooves for rapid pressure change.

- Very high resistance to pressure and hardness
- Good thermal conductivity
- Very good protection against extrusion
- High resistance to abrasion
- Low friction, free of stick-slip

## APPLICATION

- Industrial vehicles
- Handling equipment
- Agricultural machinery
- Cranes
- Presses
- Marine hydraulics
- Injection moulding machines
- Control and regulation equipment
- Rolling mills

## MATERIAL

### PTFE profile ring

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

### O-ring

Material	Code	Hardness
NBR	70 NBR B276	70 Shore A
FKM	70 FKM K655	70 Shore A

## OPERATING CONDITIONS

<b>Pressure p</b>	40 MPa
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<b>Running speed v</b>	5 m/s
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Medium/ Temperature	PTFE B602/70 FKM K655	PTFE B602/70 NBR B276	PTFE GM201/70 NBR B276
Hydraulic oils HL, HLP	-10 °C ... +200 °C	-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	-10 °C ... +200 °C	–	–
Water	–	–	+5 °C ... +100 °C
HETG (rapeseed oil)	-10 °C ... +80 °C	-30 °C ... +80 °C	-30 °C ... +80 °C
HEES (synthetic ester)	-10 °C ... +100 °C	-30 °C ... +80 °C	-30 °C ... +80 °C
HEPG (glycol)	-10 °C ... +80 °C	-30 °C ... +60 °C	-30 °C ... +60 °C
Mineral greases	-10 °C ... +200 °C	-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 $\mu\text{m}$	$\leq 2,5 \mu\text{m}$
Groove base	$\leq 1,6 \mu\text{m}$	$\leq 6,3 \mu\text{m}$
Groove flanks	$\leq 3,0 \mu\text{m}$	$\leq 15,0 \mu\text{m}$

Percentage contact area  $M_v$  >50% to max. 90% at cutting depth  $c = R_z/2$  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.

### Tolerances

The admissible gap width, tolerances, guide play and deflection of the guide under load are to be taken into account when designing  $d_2$ . → Technical Manual.

Nominal $\varnothing D$	$D$	$d$
$\leq 500 \text{ mm}$	H8	h8
$> 500 \text{ mm}$	H8	h7

Regard must be paid to the dimensions  $d_1$  and  $d_f$  in connection with the guide element used.

## FITTING & INSTALLATION

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

## SPECIALITIES

Material selection table

Criterion	PTFE GM201/70 NBR B276 (PTFE-glass- MoS2/NBR)	PTFE B602/70 NBR B276 (PTFE-Bronze/ NBR)	PTFE B602/70 FKM K655 (PTFE-Bronze/ FKM)
Oil hydraulics -30 ... +100 °C	{○}	{●}	{○}
Oil hydraulics -10 ... +200 °C	{○}	{○}	{●}
Short stroke, high frequency	{●}	{○}	{○}
Water hydraulics	{●}	{○}	{○}
Soft counterface	{●}	{○}	{○}

● = suitable; ○ = possible; ○ = not suitable