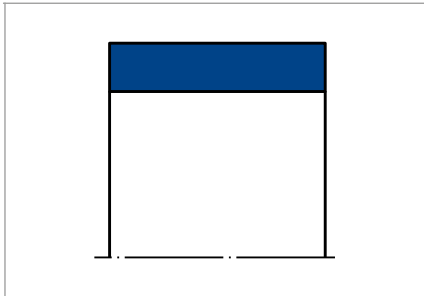


# MERKEL GUIDE RING FRA



## PRODUCT DESCRIPTION

Slit, non-metallic Merkel Guide Ring FRA.

## PRODUCT ADVANTAGES

As a non-metallic guide element for pistons, for standardised housings, amongst others, according to ISO 10766.

- No seizure due to metal/plastic materials combination
- Medium load-bearing capacity
- Chamfered profile edges prevent pressing of edge into the corner radii of the housing groove
- Simple snap-in fitting

## APPLICATION

- Earth moving equipment
- Industrial vehicles
- Agricultural machinery
- Cranes

## MATERIAL

Material	Code
Filled polyamide	PA 4112

## OPERATING CONDITIONS

Running speed $v$	1 m/s
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Load ing (permitted specific surface pressure *)	$\leq 40 \text{ N/mm}^2$ at $20 \text{ }^\circ\text{C}$ ; $\leq 30 \text{ N/mm}^2$ at $100 \text{ }^\circ\text{C}$
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\* For the simple determination of the loading, a constant surface pressure is calculated using the projected area ( $D \times H$ ). The actual surface pressure is clearly greater in the centre of the surface than the calculated surface pressure. This is taken into account in the value for the permissible specific surface pressure.

Medium/ Temperature	PA 4112
Hydraulic oils HL, HLP	$-30 \text{ }^\circ\text{C} \dots +100 \text{ }^\circ\text{C}$
HFA fluids	$+5 \text{ }^\circ\text{C} \dots +50 \text{ }^\circ\text{C}$
HFB fluids	$+5 \text{ }^\circ\text{C} \dots +50 \text{ }^\circ\text{C}$
HFC fluids	$-30 \text{ }^\circ\text{C} \dots +50 \text{ }^\circ\text{C}$
HFD fluids	-
Water	$+5 \text{ }^\circ\text{C} \dots +50 \text{ }^\circ\text{C}$
HETG (rapeseed oil)	$-30 \text{ }^\circ\text{C} \dots +60 \text{ }^\circ\text{C}$
HEES (synthetic ester)	$-30 \text{ }^\circ\text{C} \dots +80 \text{ }^\circ\text{C}$
HEPG (glycol)	$-30 \text{ }^\circ\text{C} \dots +50 \text{ }^\circ\text{C}$
Mineral greases	$-30 \text{ }^\circ\text{C} \dots +100 \text{ }^\circ\text{C}$

## 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	$\leq 2 \mu\text{m}$	$\leq 10,0 \mu\text{m}$
Groove flanks	$\leq 3 \mu\text{m}$	$\leq 15,0 \mu\text{m}$

Percentage contact area  $M_p > 50\%$  to max. 90% at cutting depth  $c = Rz/2$  and reference line  $C_{ref} = 0\%$ .

### Tolerances

D	$d_F$	$d_{F1}$
H8	h8	h9

The tolerances give are recommended values. The usage of the guide and tolerance definition are to be considered in relation to the seal employed. The diameter  $d_{F1}$  given in the table of dimensions is to be considered exclusively in connection with the guide ring. The corresponding diameter for the adjacent seal housing is to be matched to the sealing component.

## FITTING & INSTALLATION

Merkel Guide Ring FRA can be easily snapped into the housing groove. Careful fitting is a prerequisite for correct function.  
→ Technical Manual.

## SPECIALITIES

### Manufacturing tolerance

D	Production tolerance profile thickness S
$\leq 120 \text{ mm}$	$-0,10 \text{ mm}$
$> 120 \text{ mm}$	$-0,15 \text{ mm}$