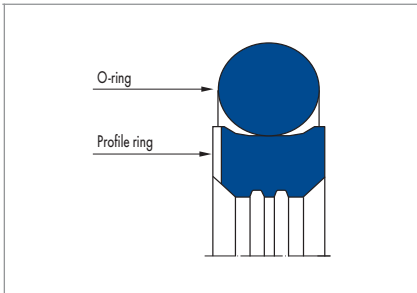


MERKEL ROTOMATIC M 15



PRODUCT DESCRIPTION

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

PRODUCT ADVANTAGES

Double-acting rod seal for pivoting motions in hydraulic systems, preferably for usage in hydraulic joints and rotary joints.

- Short
- Highly resistant to hydraulic fluids
- Low friction, free of stick-slip

APPLICATION

- Excavators
- Rotary joints
- Grippers

MATERIAL

PTFE profile ring

| Material | Code | Hardness |
|------------------------------|------------|----------|
| PTFE glass/ MoS2 compound | PTFE GM201 | – |

O-ring

| Material | Code | Hardness |
|--------------------|-------------|------------|
| Nitrile rubber NBR | 80 NBR B241 | 80 Shore A |
| Fluoro rubber FKM | 80 FKM K670 | 80 Shore A |

OPERATING CONDITIONS

| | |
|-----------------|---------|
| Pressure p | 40 MPa |
| Running speed v | 0,5 m/s |

| Medium/ Temperature | PTFE GM201/NBR | PTFE GM201/FKM |
|------------------------|--------------------|--------------------|
| Hydraulic oils HL, HLP | –30 °C ... +100 °C | –10 °C ... +150 °C |
| HFA fluids | +5 °C ... +60 °C | +5 °C ... +60 °C |
| HFB fluids | +5 °C ... +60 °C | +5 °C ... +60 °C |
| HFC fluids | –30 °C ... +60 °C | –10 °C ... +40 °C |
| HFD fluids | – | –10 °C ... +150 °C |
| Water | +5 °C ... +100 °C | +5 °C ... +100 °C |
| HETG (rapeseed oil) | –30 °C ... +80 °C | –10 °C ... +80 °C |
| HEES (synthetic ester) | –30 °C ... +60 °C | –10 °C ... +100 °C |
| HEPG (glycol) | –30 °C ... +60 °C | –10 °C ... +80 °C |
| Mineral greases | –30 °C ... +100 °C | –10 °C ... +150 °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 |

The surface hardness must be approx. 45 to 60 HRC (depth of hardening min. 0,5 mm). Percentage contact area M_r >50% to max 90% at cutting depth c = Rz/2 and reference line C ref = 0%. Abrasive surfaces, ridges, scratches and blow-holes are to be avoided.

Tolerances

| Nominal Ø d | D | d |
|-------------|----|----|
| ≤500 mm | H9 | f8 |
| >500 mm | H8 | f7 |