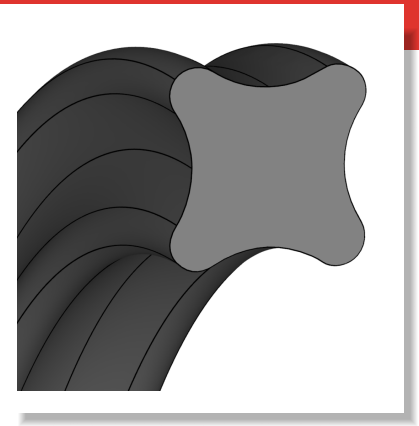




# X-ring



## DESCRIPTION

- Endless, circular ring with x-shaped cross-section

## FUNCTION

- Sealing effect due to cross-sectional deformation after installation and axial or radial compression in the installation space
- In the operating state, media pressure reinforces the sealing function

## PRODUCT ADVANTAGES

- Optimized sealing effect (good pressure distribution over square cross-section)
- Low friction due to lower contact forces
- Lubricant depot possible between the sealing lips
- High stability in dynamic applications due to almost square cross-section
- Lower radial preload required
- No interference by separation rate
- Reliable design with broad application spectrum for moderately demanding applications in general industry
- Good price/performance ratio
- Manufactured by certified external suppliers

## APPLICATIONS

- Dynamic sealing of reciprocal, rotating and superimposed screw movements
- Static sealing of stationary machine and system parts against liquid and gaseous media (flange and cover seals, pipe fittings, cylinder head and base for hydraulic cylinders)
- Comparable in handling and application to o-rings
- Sealing of pressures up to 1000 bar, use of support rings may be necessary

## APPLICATION LIMITS

- At pressures of 5 - 40 MPa in static application or 5 - 20 MPa with oscillating movement, retainer rings must be used
- Translational speed  $\leq 0.5$  m/s, circumferential speed  $\leq 2$  m/s
- Pressure [Mpa]: max. 5
- The values given here are maximum values and may not all be reached at the same time.

### NBR

- Temperature [°C]: -30 to 100

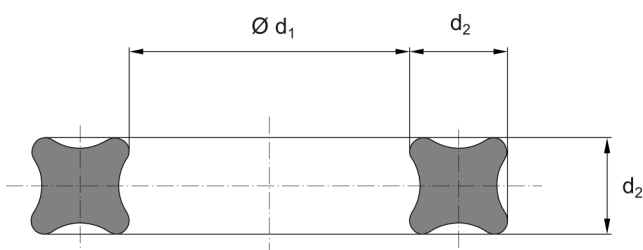
### FKM

- Temperature [°C]: -20 to 200

## MEDIA RESISTANCE

### NBR

- Good chemical resistance to various mineral oils and greases (H, HL, HLP)
- Flame-retardant hydraulic fluids HFA and HFB, HFC up to appr. +50°C
- Water up to max. +60°C
- Low resistance to ozone, weathering and ageing





## X-ring

### FKM

- Good chemical resistance to mineral oils and greases, synthetic oils and greases, engine, gearbox and ATF oils up to approx. +150 °C
- Fuels, flame-retardant pressure fluids HFD, aliphatic, aromatic and chlorinated hydrocarbons
- Water up to max. +60°C
- Very good resistance to ozone, weathering and ageing

### CONFORMITY AND CERTIFICATES

- Please consult the material data sheet valid for the respective material for current information on approvals and certificates, as this information depends on the compound and cannot be listed exhaustively here.

### DESIGN GUIDELINE

- If possible, installation space should be cut at right angles and carefully machined
- Burrs, scratches and notches must be avoided
- Insertion chamfer 15° to 20°, rounded edges, length depending on cord thickness
- Insertion chamfer surface roughness Ra Ra = 0.8 µm and Rz = 6.3 µm



### INSTALLATION GUIDELINE

- Deburr sharp edges, provide with seamless chamfers and radii
- Clean the installation space carefully before installation, remove dust, dirt, metal chips, etc.
- Do not pull the seal over sharp edges, threaded tips or cavities (feather key grooves) during installation, cover with a mounting sleeve if necessary
- Heating the seal in oil at 80°C makes the sealing material more elastic and the seal is easier to install
- Grease mounting surfaces and seal
- Do not expand the seal to the expansion limit

### STORAGE ADVISE

- Storage temperature <25°C
- No direct heat sources
- No direct sunlight
- No condensation in the storage room
- No exposure to ozone or ionizing radiation
- Recommendations based on the revision of ISO 2230 dated 16.09.1992

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