For further information on all our seals, please check our web page or contact our offices.

Technical features

1. Textile-rubber reinforced back
2. Rubber sealing lip
3. Spring housing with engineered seat to prevent its accidental loss during assembly
4. Garter spring
5. Sealing edge made through cutting process
6. Lubrication grooves

Materials

1. Textile-rubber reinforced back: NBR; FKM; HNBR
2. Elastomer: NBR; FKM; HNBR
3. Garter spring: AISI 302; AISI 316

Applications

Any industrial sector

Dimensions:
Minimum I.D. 150 mm; Maximum O.D. 2.000 mm in one single piece; larger than 2.000 mm by hot-vulcanizing jointing technique

Working speed: up to 25 m/s

Pressure: 0 BAR ("split") - 0.5 BAR ("endless")

Operating temperature range: -40°C / +220°C

Remarks: All working parameters vary, considering the different type of materials and elastomer used.
**TGU TYPES**

**TGU**
Oil seal with a flexible reinforced textile-rubber back, and a rubber sealing lip with a garter spring.

**TGU-TE**
Sealing lip on the outside diameter.

**TGU-MTV**
Special Oil seal with a flexible reinforced textile-rubber back. Garter spring vulcanized into the sealing lip.

**TGU-GM**
Profile with a special sealing lip to withstand higher pressures.

The TGU-GM type is a ring with a reinforced textile-rubber back, produced with a finger spring in stainless steel:
- The finger spring is vulcanized into the sealing lip.
- The assembly requires a clamping plate.
- By special request it can be produced in its “split” (open) shape. In this case, there should be no pressure in the application.

The minimum inside diameter that can be produced is 150 mm. For smaller dimensions, please contact *FP* to verify production capacity.

**TGU-VGUARD**
Special profile that combines the characteristics of a rotary shaft seal and a front seal.

**TGU-VGUARD**
Profile with a special sealing lip to withstand higher pressures.

**SPECIAL TEXTILE-RUBBER SEALS FOR HIGH PressURES**

**TGU-BP**
These types of textile-rubber sealing rings are variations of the standard TGU type and are engineered to be used in high-pressure environments.

**TGU-BP RANN**
The resistance to pressure varies depending on the profiles of the sealing ring used in the application. These rings are not available in their “split” (open) form.
**Shaft surface finishing**
The surface on the shaft should have a roughness: \( Ra = 0.3 \sim 0.5 \, \mu m \); \( R_{max} = 1-2 \, \mu m \).
Obtained by plunge grinding.

**Shaft hardness**
Recommended: 40 ÷ 50 HRC.

**Shaft misalignment**
Depending on the speed, should not exceed 1.5 mm.

**Housing and shaft tolerances**
All types of TGU, TGA and TGR must be axially assembled in the housing, and flanged.

*Shaft:* h 11  *Housing:* H 8  *Thickness or height:* nominal dimension of the ring ± 0.1 mm

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**Assembly instruction:**

**TGU, TGA and TGR**

The rings type TGU, TGA, and TGR are always used with a retaining plate, which creates an axial preload, ensuring the static sealing of the ring. To facilitate the mounting of the ring, it would be better to provide the housing with a chamfer.

The ring must be inserted evenly and pressed into the seat. Before tightening the retaining plate, check that the sealing lip and the fabric’s back are in the right position and that the spring is in place.

**Assembly instruction:**

**TGU SPLIT, TGA SPLIT, TGR SPLIT (open shape)**

Remove the spring and open the joint. Place the spring around the shaft, join the two ends of the spring together and close. Place the ring on the shaft and push the spring into its seat. Make sure the ring’s jointing point is facing the 12 o’clock position. When using two split rings, the jointing points should be facing the 11 o’clock and the 1 o’clock positions. When it is verified that both ends are perfectly aligned, press the ring into the seat and tighten the retaining plate as described above.

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**TGA**
Provided with axial (A) and radial (R) lubrication grooves; mostly used in “back-to-back” applications.

**TGA-BP**
Provided with axial (A) and radial (R) lubrication grooves; mostly used in “back-to-back” applications. Special profile of the sealing lip to withstand pressures up to 4 BAR. Not recommended in its “split” (open) shape.

**TGA-MTV**
Special Oil seal with textile-rubber back. Garter spring vulcanized into the sealing lip. Provided with axial (A) and radial (R) lubrication grooves.

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**TGR**
Provided only with radial (R) lubrication grooves.