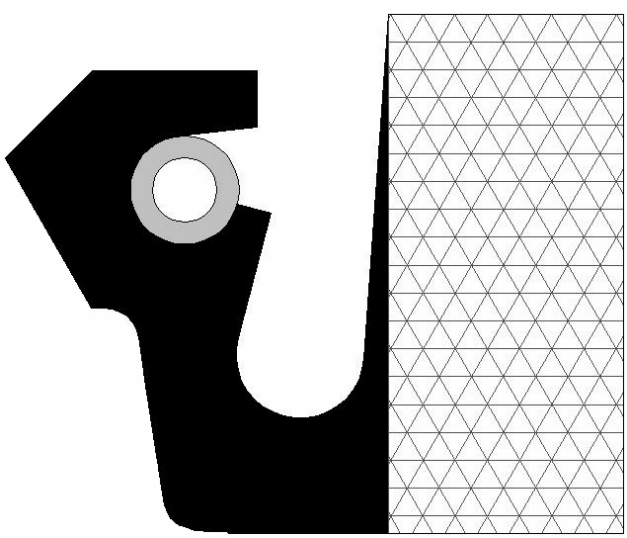
TENUTE TR/E **seals**

The **TENUTE** TR/E ring seal is used when an external sealing is required. It can be produced with or without spring.
The use of last generation materials allows to enhance sealing performances and reduce maintenance times.
The development of this model has been achieved thanks to the close co-operation between TENUTE Technical Department and some important end users who made their plant available for tests.
The accurate study of the profile, the application of specific rules on the design of the different section areas, enabled the production of these robust but flexible seals.
TR/E models can be made in different configurations. Picture 1 shows a model with high-resistance cotton fabric back, NBR lips and expanding spring.
Maximum pressure capability is 0,5 bar.



Picture 1

TR/E - endless form - can be manufactured up to a diameter of 2.500 mm.

An important version, although difficult to use, is TR/E Split, which can make the assembly easier (no pressure applicable) and offers the opportunity to work in applications where it would be difficult or even impossible to use endless rings.

Both models, TR/E endless and TR/E Split, in whole rubber and cotton fabric materials, require a retaining plate for a correct operation and must be glued to their housing.

MATERIALS

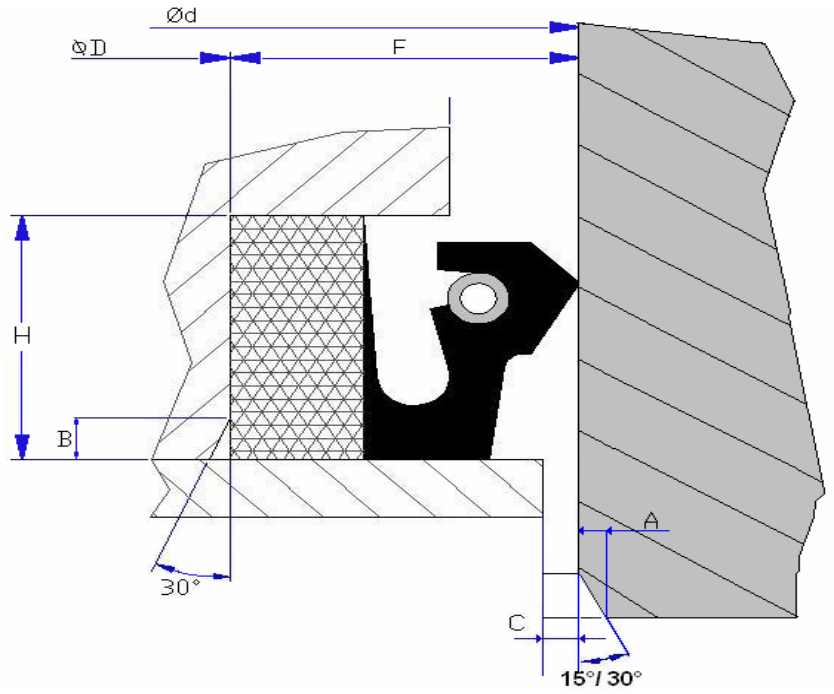
The standard production is in Nitril elastomer NBR added with PTFE, but for particular working conditions, TR rings can be produced in: HNBR hydrogenated nitril elastomer, VMQ silicon elastomer, FKM fluorocarbon elastomer. Other combinations are available upon request. Table 1 shows working temperature ranges (minimum, maximum, peak) applicable to each kind of compound.

MATERIAL	TEMPERATURE C°	STANDARD SPRING
NBR	-30° +100°(120°)	Carbon Steel
HNBR	-40° +150°(175°)	Carbon Steel
VMQ	-50° +200°(250°)	Carbon Steel
FKM	-20° +200°(250°)	AISI 302

Table 1

Assembly of TR/E sealing rings

Picture 2 shows details of the housing dimensions and the assembly of one of the above mentioned models. Dimensions and tolerances can vary according to model. Particular applications or requirements different from those detailed are to be agreed with our Technical Department.



Picture 2

Shaft and Housing tolerances and chamfers

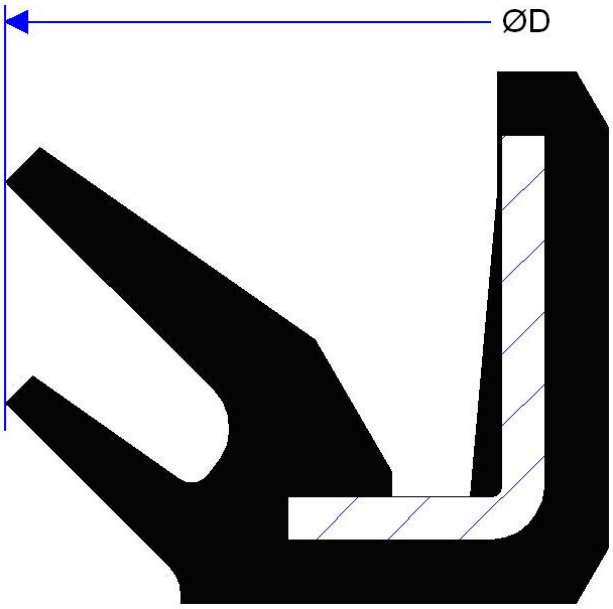
Owing to the different applications where TENUTE TR/E model can be used,
all users are kindly requested to contact TENUTE Technical Department in order to determine this table values.

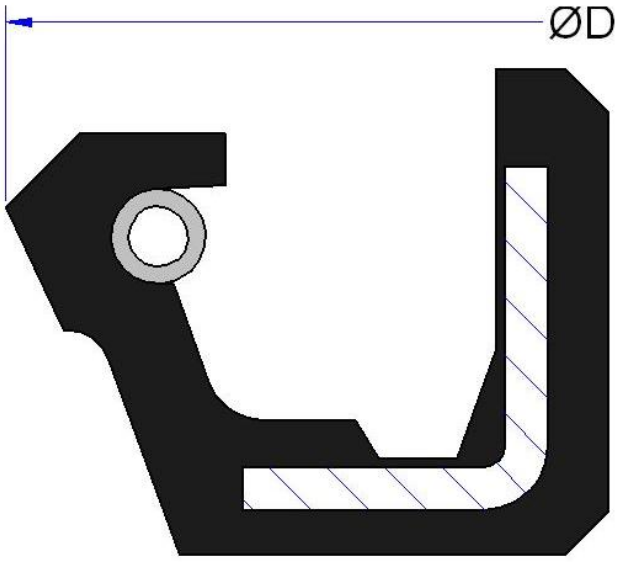
Shaft and housing surface finishing

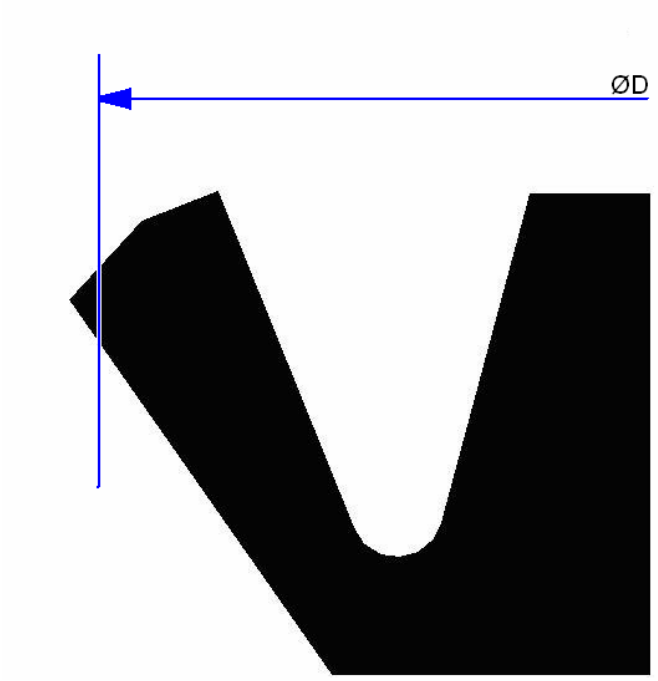
A roughness of Ra 0.2/0.6 µm is recommended for the cylinder barrel, in normal applications, while in case of high speeds, a finishing of 0.2/0.4 µm is recommended. Plunge grinding required.
For the housing bore a finish turning is sufficient.

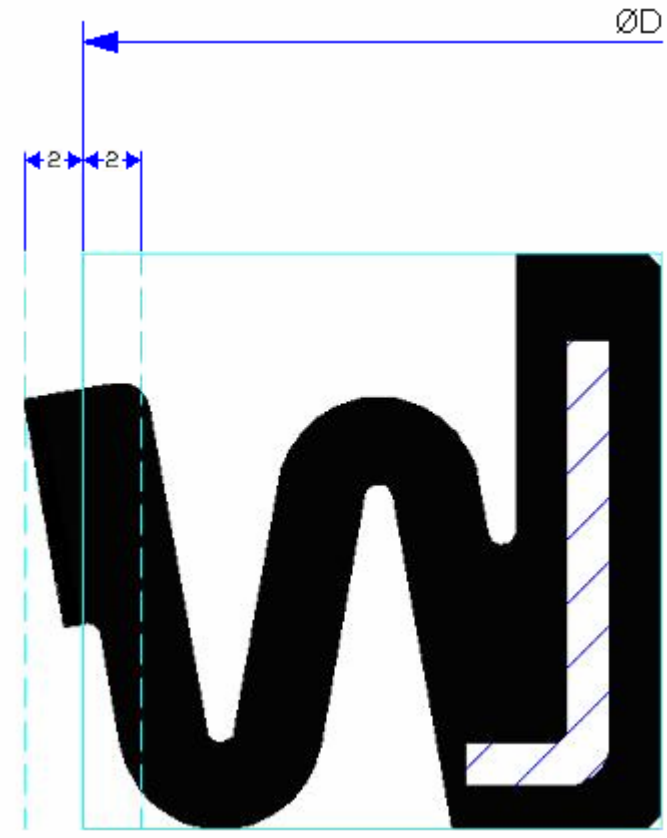
Cylinder barrel	
Up to 15m/s	Over 15m/s
40HRc	50HRc and above

OTHER TR/E AVAILABLE CONFIGURATIONS









We suggest to ask our Technical Department for more information about assembling and applications.