TENUTE – TR/M/7 pressure sealing ring

This seal is employed for pressure up to 5 bar max.
The special profile is studied so that pressure generates a torque that relieves the sealing lip, and consequently reduces friction. See figure 1
TR/M/7 differs in the presence of a stiffening metallic strip completely drown in the back. This is why is assembled in open housings, without retaining plate.
TR/M/7 preserves a good overall flexibility and it is easier to be assembled compared to common sealing rings with rigid metallic insert, and ensures, as the commonest sealing rings, the same stability in the housing.

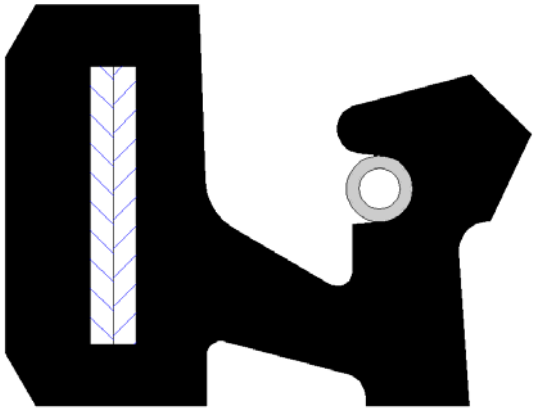

Figure 1

The exclusive features of this type of seal can be summarized as:

- Possible assembly in open housing
- Reduced radial force on the shaft effected by the pressurized fluid
- Reduced friction and consequent temperature
- Absence of external metallic parts and consequent prevention of damages to the seal housing.

Figure 2 shows the pressure sealing chart with respect to the shaft rotation speed.

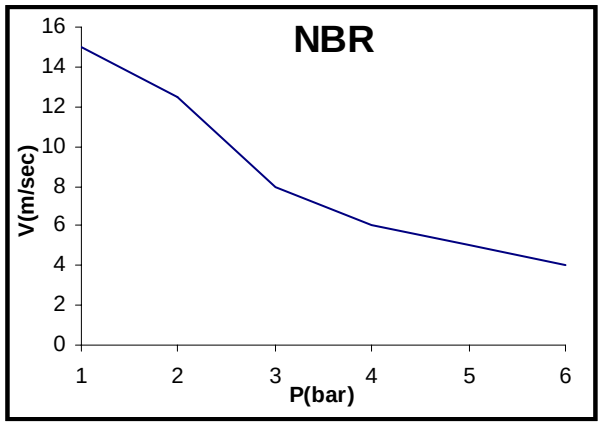

Figure 2

TR/M/7 can be manufactured – as endless form – up to a 2500 mm diameter.

The standard production is in Nitril elastomer NBR added with Ptfe, but for particular condition of employ, it can be produced in: HNBR hydrogenated nitril elastomer, MQ silicon elastomer, FKM fluoro carbon elastomer.
In the table 1 there are the admissible working temperature (minimum, maximum and maximum point) for this kind of material.

MATERIAL	TEMPERATURE C°
NBR	-30° +100°(120°)
HNBR	-40° +150°(175°)
MQ	-50° +200°(250°)
FKM	-20° +200°(250°)

table 1

Assembly of TR/M-7 sealing rings

The drawing shown in figure 3 details the size of housings and the assembly of the above mentioned model. Peculiar applications or requirements different from those detailed are to be agreed with our Technical Departmen..

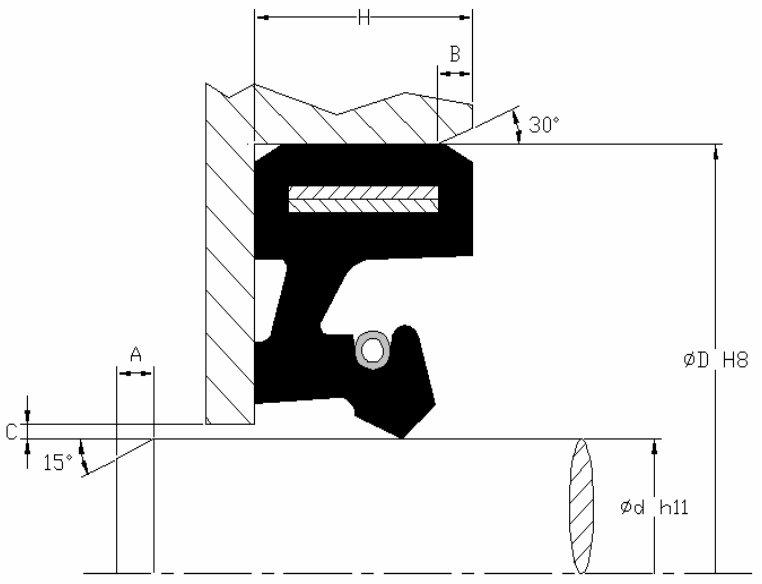

Figure 3

Tolerance and roughness of the metallic parts

Housing Height tolerance		Shaft chamfers			Housing chamfer	
H (mm)	(mm)	Ød(mm)		A minimum	H(mm)	B(mm)
UP TO 15	0 / -0,1	OVER	UP TO	(mm)	10	1
OVER	+ / -0,1	3	50	5	15	1.5
		50	250	10	20	2
Clearance C		250	800	15	30	3
Ø d (mm)	C maximum (mm)	800	1500	20	40	4
UP TO 600	1	1500	2500	25		
OVER	1,5					

SURFACES FINISHING

A roughness of Ra 0.2/0.6 µm is recommended for the shaft, in normal applications, while in case of high speeds, a finishing of 0.2/0.4 µm is recommended.
Furthermore, in case of water, it is advisable to perform chromium plating of the shaft/sealing lip contact surfaces, in order to avoid a rapid wear due to iron oxides that are removed by the sealing lip. A finish turning is enough for housings.

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

Tooling List Up-To Date on 04_05_2005

Ød	ØD	H	PROFILE
114,3	139,7	13,5	*TR/M7*
120,65	146,05	12,7	*TR/M7*
125	165	16	*TR/M7*
139,7	165,1	12,7	*TR/M7*
139,7	169,8	15,9	*TR/M7*
140	160	12	*TR/M7*
140	175	15	*TR/M7*
140	180	16	*TR/M7*
150	180	15	*TR/M7*
158,75	196,85	19,05	*TR/M7*
165	190	15	*TR/M7*
165	190	15	*TR/M7*
165	195	16	*TR/M7*
180	215	16	*TR/M7*
180	220	16	*TR/M7*
240	280	16	*TR/M7*
250	290	14	*TR/M7*
255	295	18	*TR/M7*
265	305	15	*TR/M7*
310	355,6	20	*TR/M7*
320	364	20	*TR/M7*
324	362	17,5	*TR/M7*
330	370	15	*TR/M7*
340	380	20	*TR/M7*
376	420	20	*TR/M7-CS*
400	440	20	*TR/M7*
406,4	457,2	22	*TR/M7*
500	540,4	20	*TR/M7*
680	740	25	*TR/M7*