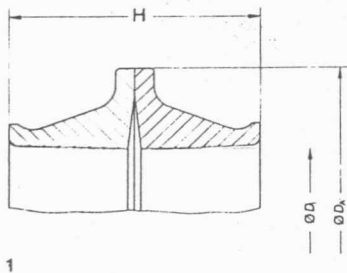


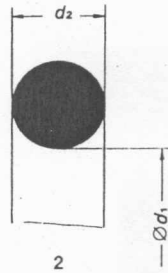


TORRIC SEALS – "DUO-CONE"

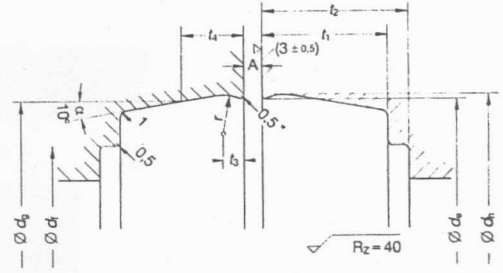
Seal rings



O-ring



Housing bore



Installation Dimension

Design and Operating Characteristics

The face seal type 76.90 H / 76.97 H consists of two metallic seal rings which have the same geometric contour and are flexibly located in O-rings. The function of these O-rings, which act as springs, is to maintain axial sealing pressure, to provide a static seal between the seal ring and housing bore, and to transmit frictional torque. The seal is designed so that one of the two seal rings rotates and the other is stationary.

The axial force required for an effective seal is obtained by compressing the elastomeric parts between the clamping cone of the seal ring and the housing bore, at the same time as the seal is being axially compressed to the installation dimension.

The contact faces are conically designed with a particular angle, so that when the seal rings come in contact there is a wedge-shaped gap perpendicular to the axis. This provides the lubricant with easy access to the seal faces. In addition, this design of section allows the seal faces to move continually inwards, thereby providing a high wear-resistant capacity. The limit to the useful life of the seal is reached when the seal faces have been displaced as far as the inside diameter of the seal ring. To ensure troublefree functioning of the seal a lubricant is necessary, either grease or oil, depending on operating conditions. The lubricant reaches the sealing gap by capillary action and by the effect of centrifugal forces when the seal is rotating. This gives a sufficient lubricating and cooling effect and avoids cold welding of the seal faces.

Consequently, a physically-conditioned film of lubricant is generally visible at the outer gap of the seal. This must not be considered as leakage, but rather as an indication of the optimum design and troublefree functioning of the face seal.

If the seal has been opened for repair, a new set of seals must be fitted, even if the limit of wear has not been reached. Even after a relatively short running period, the mating surfaces will have settled into each other. When reassembling the previous seal the same installation position cannot be guaranteed. This could lead to an overlap in the running orientation of the seal faces. Consequently, leakage will occur until the seal has been run-in again.

Areas of Application

During operation, where they are generally subjected to high demands, the drive mechanisms of tracked vehicles and construction machinery are exposed to dust, sand, mud, stones and earth etc. Abrasive and corrosive attacks not only cause heavy wear in the bearings of the tread, support and guide rollers of the caterpillar track, they also have the same effect of wheel hubs and axles. Mechanical face seals have been developed for the above-mentioned applications. These give lasting protection to the bearing even in the dirtiest conditions.

Apart from this area of application, there are various other practical applications in related branches of engineering where the operating conditions are the same or similar. For example, conveyor systems of all types, sand preparation plant, concrete and cement mixers and mining equipment etc.

