A new high-temperature generation packings for valves

With a correctly performed assembly, theoretically the distribution of acting forces in the stuffing box during the initial installation of your armature will appear as shown in Fig.1.

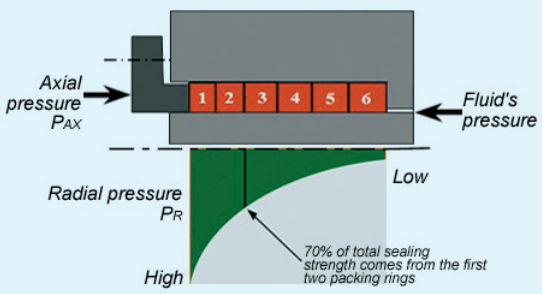


Figure 1

By tightening the bolts on the stuffing box cover, the packing endures axial pressure P_{ax}. The packing rings located closest to the stuffing box cover absorb most of the axial pressure. Part of this pressure is transmitted from one ring to another, while the rest is transmitted to the stalk of the armature and is named contact radial pressure P_R. That part of axial pressure P_{ax} which is transmitted to the stalk as a contact radial pressure P_R (packing force) depends on a number of properties of the packing material, its design, friction and treatment, and is expressed by the lateral deformation factor K.

$P_R = K.P_{ax}$

To ensure effective sealing at the bottom of the stuffing box, the radial pressure P_R exerted by the bottom ring must be greater than the working pressure of the fluid in the armature.

The most effective distribution of axial pressure will be obtained when the friction in the packing is at its lowest. The effect of incomplete conversion of axial pressure to radial one is shown in Fig.1. The large number of rings does not improve the performance of the set of rings because much of the radial pressure is lost in the longer (deeper) stuffing box.

With the increase of operating temperature, the distribution of forces and the diagram of the existing radial effort P_R significantly changes due to the loss of mass of the packings. This leads to a significant reduction of the axial pressure P_{ax} due to reduced density of the packing and the displacement of the stuffing box cover deeper into the stuffing box. The reduction of the pressure P_{ax} leads to reduction of the sealing radial pressure P_R / Fig. 2 /, which can reach critical values and result in a leak in the armature.

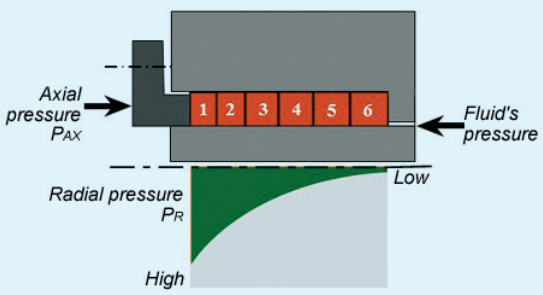
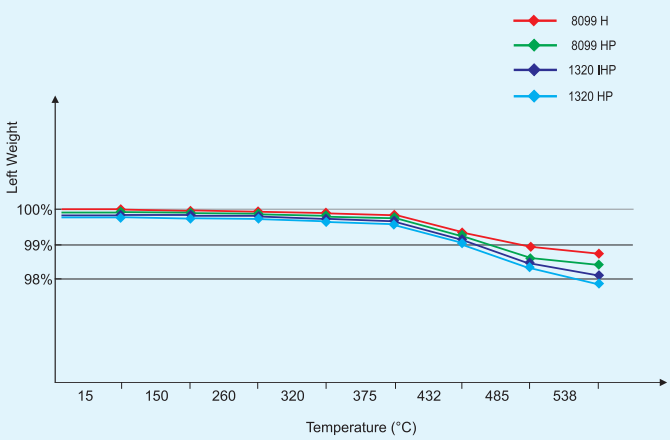


Figure 2



The API 622 Standard not accidentally requires control over the loss of mass so that there is previous information about the behavior of the packing assembled in the stuffing box mounted on the armature in order for the maintenance staff to be able to undertake proper action.

In some cases, maintaining a constant axial pressure P_{ax} is done by means of complex systems of springs, however, their reliability is uncertain.

It would be a great advantage if you used a packing with a mass loss as low as close to zero so that after installation and commissioning of the equipment you have no concerns or worries about leakage from the armature.

OUR new generation of packings for armature operating under extreme conditions is characterized by a uniquely low mass loss below 1%, measured in compliance with item 6.1 of the API 622 Standard, and an inhibiting system that prevents the armature from corrosion.

The series of packings AVKOPACK xxx H and HP are designed on the basis of an AVKO-patented technology with a mass loss close to "0", and are the most reliable sealing system for armature.

Packings from the AVKOPACK xxxx H and HP series are a perfect solution for armature operating at high temperatures of 350-560°C and pressure values up to 500 bar.

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