Installing and Operating PTFE Bellows

Works Standard

Installing PTFE bellows allows the user to connect equipment to piping in a stress-free way. The bellows are not designated to compensate for mounting tolerances in piping.

The picture on the left hand side shows a DN 100 size bellows with a neutral length of L_0 = 91 mm.
The maximum allowed elongation / compression is ± 15 mm (in accordance with GAB WS 1070/1270 resp. 1071/1271).

The image on the right hand side shows an overstretched bellows (L1 = 140 mm). The 35 mm(!) overexpansion is a result of inadequately installed piping.

Overstretched bellows are risky: They may burst and may destroy graphite nozzles in certain cases.

In general:

GAB HX type PTFE bellows are used for the connect equipment to piping while avoiding stress.

Conditions where stress on the bellows exceeds the maximum specific values (see GAB WS 1070/1270 and 1071/1271) must be avoided by making special arrangements - e.g. preparing an anchor point directly in front of the equipment.

The loading case of the max. inside pipe pressure and bellows' potential for expansion should also be taken into consideration..

Note:

For technical reasons GAB HX PTFE bellows are not supplied with limit rods. Therefore an overexpansion during operation or pressure testing must be avoided by configuring piping accordingly.

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