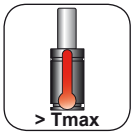
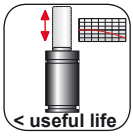
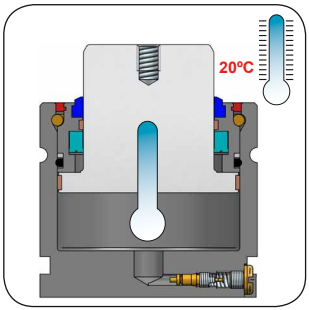
# 4 - TEMPERATURE

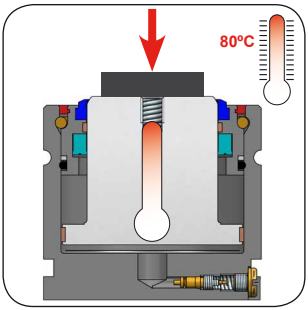
## CHALLENGE

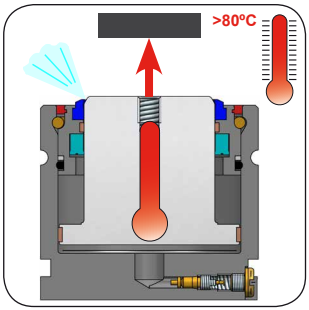




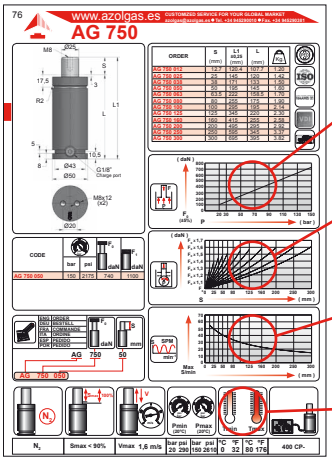




According to the operating instructions, the maximum temperature (**Tmax**) that can operate gas springs is **80 ° C**.

The temperature increase above the maximum allowable (Tmax) causes deterioration of the sealing elements and **reduces the life** of the gas springs.

## FACTORS








1.Initial pressure: the higher initial charging pressure, the higher temperature into the gas spring during operation.

2.Gas volume: the higher is volume inside the gas spring, the lower is the compression rate and temperature.

3.Frequency and stroke used: the major stroke used, higher friction and greater temperature increase in the gas spring, so that the maximum rate in cycles per minute SPM is smaller.

4.Working temperature: minimum and maximum limits.

It should be taken into account that the gas springs are heated during operation (due to friction) and the gas pressure increases with increasing temperature (about 0.33% for every 1 ° C).

The main factors affecting the temperature increase in gas springs are:

- $P_0$ Initial pressure (bar)
- S Working stroke (mm)
- SPM Frequency (cycles per minute)