

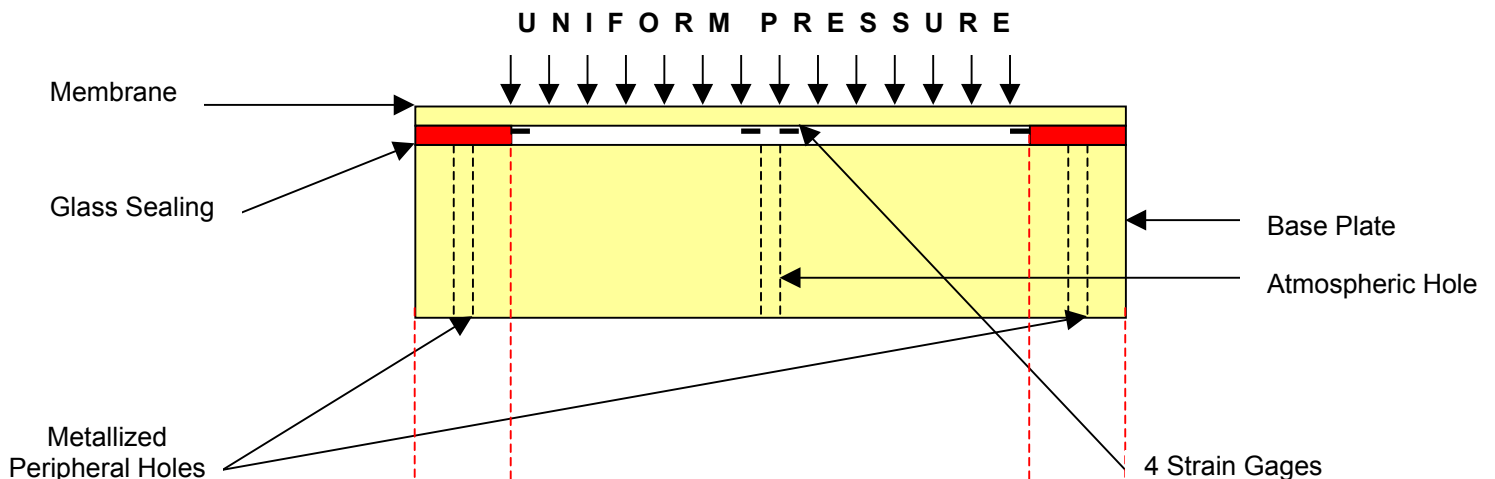
PC18 & ms18 Sensors Structure Comparison

The basic structure of the PC18 sensors comprises :

- A Base Plate supposed to be thick (stiff) enough, so that it is possible to consider that it does not bend when the pressure is applied.
- On top is located a membrane which has slightly the same external diameter.
- In between, there is a (red) glass sealing performed at very high temperature which maintains tightly the 2 parts together, so that the mechanical clamping & the sealing of the capsule are simultaneously performed.
- When the pressure is applied, the free part of the membrane bends and the red part clamped by means of the glass sealing does not move.

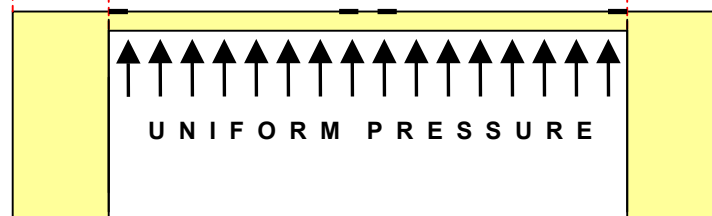
The bending of the membrane is detected by the 4 strain gages, arranged in a Wheatstone Bridge electrical configuration.

- The external diameter of the Membrane is a little bit smaller than the external diameter of the Base Plate, so that the possible non concentricity appearing during the glass sealing process does not create any problem when the sensor is integrated in a housing.



- The Atmospheric hole when open, allows a real Gage (Relative) pressure measurement. When it is sealed under vacuum, the sensor performs an Absolute measurement.
- The peripheral metallized holes allow to establish the electrical contact between the internal pads located on the membrane and the external pads at the back of the Base Plate.

The basic structure of the ms18 sensors is much simpler :



- It can be seen that the ms18 Structure has the same external and internal diameters.
- Consequently the effective sensing area is the same.
- The 4 strain gages have exactly the same dimensions.

