

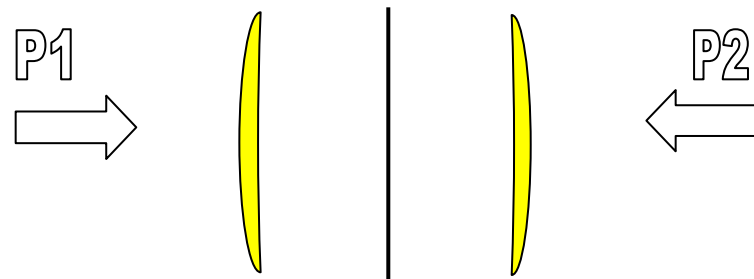
NEW Differential Pressure measuring Cell

Working Principle:

Differential pressure cell is made by two bodies welded together with two side measuring diaphragms and one central protection diaphragm.

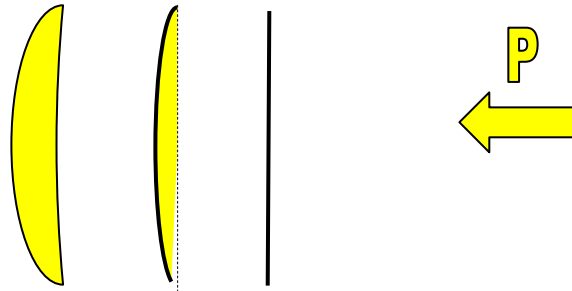
The filling oil inside the bodies transfers pressure to the pressure sensor that is welded on central diaphragm.

When applied pressure is inside the sensor range side diaphragms transfer pressure to the sensor and the central, more rigid, doesn't influence the measurement.



$$dP = P2 - P1$$

When there is an overpressure on one side, central diaphragm moves and filling oil under the side diaphragm is transferred inside the body. The oil under the diaphragm where the overpressure is applied is “virtually” transferred on the opposite side.



Advantage of new cell::

The position of Piezoresistive silicon sensor, welded on the central diaphragm, reduces size and weight of the cell

More robust and reliable thanks to a low number of components and a simple assembly made by welding only
Very small volume of oil reduces thermal drifts and hysteresis