CHOOSING THE RIGHT PRESSURE RANGE

FLUIGENT offers 10 pressure ranges for its different product lines. Which is the right one for you?

The resolution of our pressure sensor is always 0,03% of the full scale. One step with a 25 mbar instrument is 7,5 µbar, one with the 7 bar controller is 2,1 mbar. We recommend working around the middle of the range to benefit from the resolution.

Similar to the Ohm law in electricity (I=U/R), the flow rate equals pressure divided by the fluidic resistance. So the higher the pressure, the higher the flow rate. However, the fluidic resistance should also be taken into account as it is in linear dependency of the length of the tubing and channels and with the forth power of the inner diameter/ channel surface size.

Use our calculator to estimate the ratio between the pressure and the fluidic resistance. The chip geometry is also taken into account.

GENERAL TIPS

It is always possible to increase resistance by selecting tubing with smaller inner diameter or increasing the length (but keep in mind: the smaller the structure, the faster it clogs).

However, decreasing resistance may be somewhat more challenging. We generally recomment choosing a controller with higher pressure capabilities than your initial estimates. This gives you more room to adapt your microfluidic setup to the situation at hand.

To rinse, clean the system and eject bubbles or particles. It is good to have some room for maneuver.

Contact us for further afvice. We are happy to help.
Good luck!