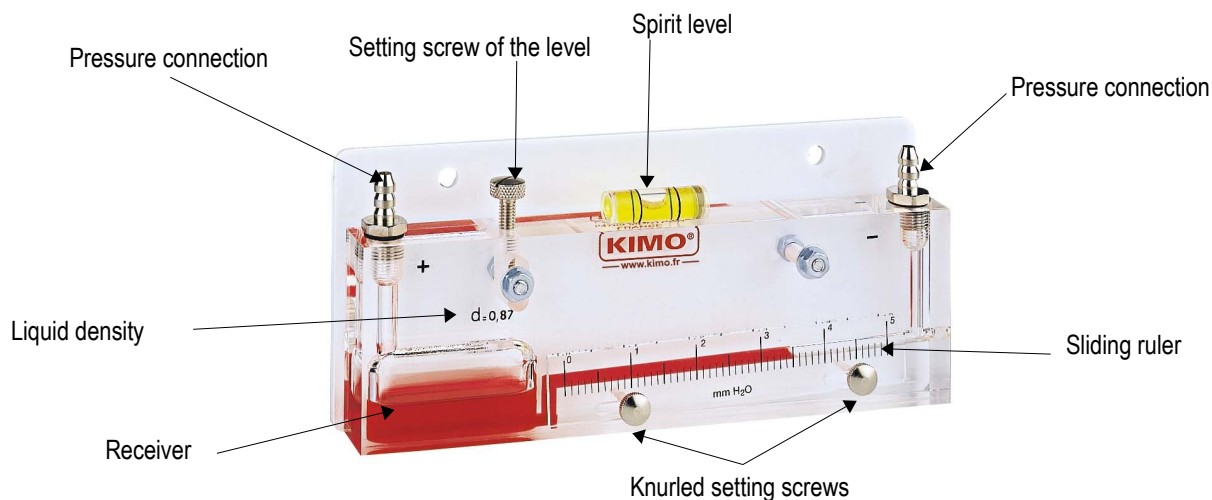


INSTALLATION OF AN INCLINED LIQUID COLUMN MANOMETER



STEP 1 : FIX THE LIQUID COLUMN MANOMETER

- > Fix the manometer on a wall or a vertical wall with 2 screws Ø 5mm maximum.
- > Set the horizontality of the manometer with the incorporated level and its setting screw.
It is recommended to use a precise level to get a better precision. The precise level must be placed above the manometer.



For proper measurements, the bubble of the spirit level must be between the two lines.



OK



Out of tolerance

- > **Unscrew the pressure connection situated above the receiver and pour the manometer fluid up to the zero point of the graduation.**

> **NB :** If your manometer has **safety connections**, remove the **two measure connections** of the manometer and slowly pour the manometer fluid up to the zero point of the graduation.

- > **Screw the pressure connection** (solid but moderated tightening). It is not necessary to strongly tight because the connection has a o-ring seal.

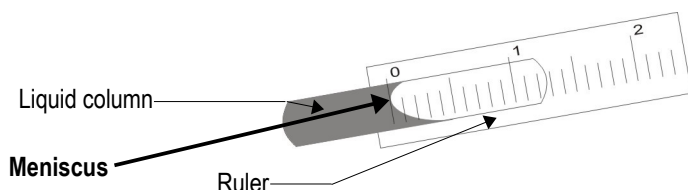
> With a squeeze bulb, a pump or a pressure generator, send up the fluid up to the full scale of the ruler (this has the effect to wet the liquid column).

- > Wait 2 to 3 minutes until the stabilization of the fluid.

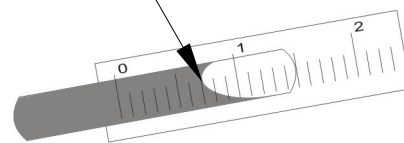


STEP 2 : SET THE LIQUID COLUMN MANOMETER

➤ After pouring the fluid up to the zero point of the graduation (as described on step 1), it is necessary to perform the adjustment. For that, unscrew slightly the two knurled screws and move to the right or left the ruler to have the setting described below (the meniscus must be placed on the zero) :



Correct reading : 0.7 mm H₂O



Reminder of the reading principle on a inclined liquid column manometer :

For all measurements, it is imperative to read in the meniscus deep.

NB: this handling can cause an important move of the ruler, 2 problems may occur:

- There is not enough liquid in the receiver, in this case : add some liquid (see step 1). Screw the pressure connection and wait 2 to 3 minutes, then repeat the procedure to set the zero as described hereabove.
- There is too much liquid, in this case : take an empty burette, squeeze it and suck up the liquid excess. Screw the pressure connection and wait 2 to 3 minutes then repeat the procedure to set the zero as described hereabove.

STEP 3 : CONNECTION OF THE LIQUID COLUMN MANOMETER



- Connect the manometer with a **Ø 5 X 8 mm** crystal tube to the source of pressure or depression to check :
 - For a pressure measurement: connect the crystal tube on the left connection (+).
 - For a depression measurement: connect the crystal tube on the right connection (-).
 - For a differential pressure: Connect on the left connection (+) the highest pressure and on the right connection (-) the lowest pressure.



- If you need pass through a wall to make some pressure measurements, it is advised to use glanded penetrations in order to avoid a premature wear of the silicone tubes (there are different lengths available).

STEP 4 : CALIBRATION OF A MANOMETER



- With a pressure generator, generate a determined pressure.
- Wait 2 to 3 minutes the stabilization of the measurement.
- Compare the results of the pressure generator and of the manometer. If the manometer has a different value from the value of the pressure generator, adjust the manometer with the setting screw of the level until getting the same value.

➤ Example :

- If the generator shows 4.8 mmCE and the manometer 5 mmCE: in this case, slightly unscrew the setting screw of the level until getting the same value (the bubble of the spirit level must be between the two lines. See step 1).
- If the generator shows 5 mmCE and the manometer 4.8 mmCE: in this case slightly screw back on the setting screw of the level until getting the same value (the bubble of the spirit level must be between the two lines. See step 1).

➤ **Redo the zero point of the manometer and wait for the stabilization of the liquid (2 to 3 minutes).**

MAINTENANCE

The manometers do require no particular maintenance. Nevertheless, we recommend to change the manometer liquid once or twice a year.

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