

EVEN DISTRIBUTION OF PRESSURE IN LIQUIDS

MED 15.07



Material:

Item-no.	Qty.	Description
DM401-1D	1	Pressure distribution unit, 02
P7050-1A	1	Powder dye, red
		Water

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Purpose

Demonstration of the even pressure distribution in liquids.

Preparation

- remove the syringe with the silicone stopper from the glass bulb
- make sure that the silicone hoses that connect the manometer tubes with the glass bulb are not crooked
(the glass bulb can be turned and the hoses newly connected the manometer tubes again if this needs to be adjusted)
- pour coloured water into the glass bulb (as shown on the image)



Experiment

It can now already be seen that the water pillar in the glass bulb and in the Manometer tubes have the same height.

Push the syringe firmly into the silicone stopper - afterwards draw the syringe up to 60 ml

Push the stopper with the syringe attached into the cone of the glass bulb, make sure that the connection is tight.

Carefully push the piston into the syringe now and observe how the water level is increasing in the Manometer tubes.

Result

The pressure acting on the inside of the piston is present with undiminished strength at every point within the liquid.

The Manometer tubes show the pressure of the liquid in the piston "up", "to the side" and "down".

Since the water pillar is the same in all pipes the pressure is also the same everywhere.

The same compressive force therefore acts normal to the surface on every possible flat surface with the area A

$$F = p \times A$$

