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Operating instructions

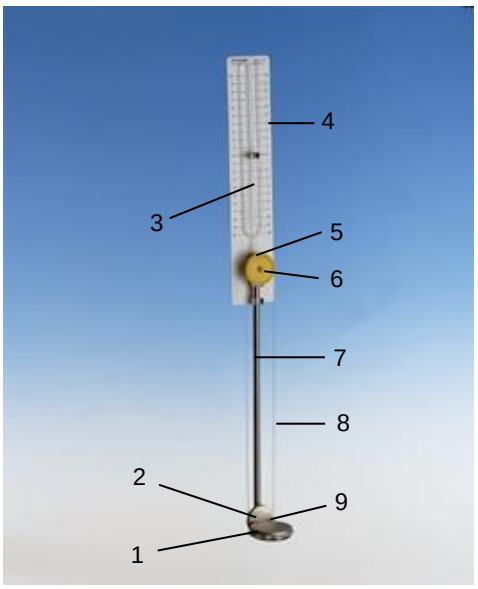


Fig. 1: Pressure element, Hartl type, 02635-00

CONTENT

1 SAEFTY PRECAUTIONS

Caution!

- Read the operating instructions thoroughly and completely prior to starting the instrument. This is important for your own protection and for avoiding damage to the instrument.
- Do not operate if there are visible signs of damage to the
- unit or the connection cord.
- Only use the instrument for the purpose for which it is intended.

2 PURPOSE AND CHARACTERISTICS

The Hartl-type pressure element is a pressure element manometer, which can be rotated, for the investigation and measurement of hydrostatic pressure. The device.s pressure probe is a rotary pressure element *1,* one side of which is covered with a rubber membrane, and a U-tube manometer *3* with scale *4* for measurement. The probe and the manometer are connected by a metal tube *7*. To also be able to investigate the directional dependency of the pressure, the pressure element can be rotated by means of a belt *8* which passes around two pulleys *6* and *2*. A vent screw *9* allows pressure equilibration.

3 SET UP AND PROCEDURE

To fill the manometer, it is advisable to prepare a color solution in a beaker (e.g. add a knife tip of eosin powder to about

25 ml of water). Fill the U-tube manometer with this solution up to about half its leg length.
Fill the U-tube without bubbles:

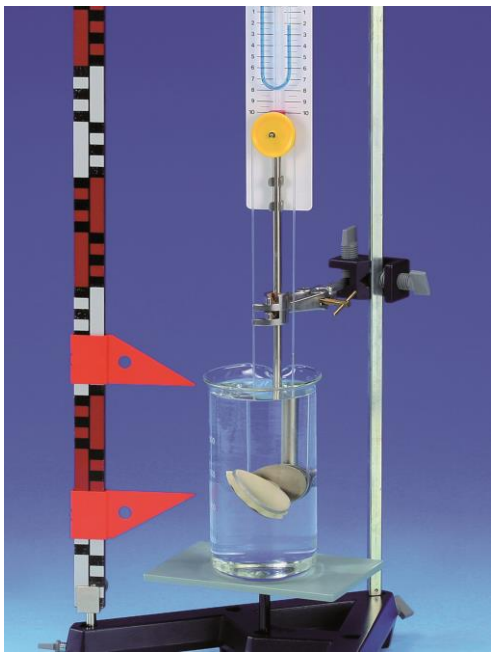
- Fill the beaker one third full with water, stain with a small spatula tip of patent blue or eosin (Fig. 2)
- Move the stopper on the U-tube until it protrudes a little over the glass tube
- Insert the syringe into the stopper from this side and push the syringe plunger fully into the syringe
- Turn the U-tube upside down and dip the open end into the colored water in the beaker (Fig. 2)
- Use the syringe to draw water into the U-tube until one leg is completely filled with water
- Invert the U-tube with the syringe so that the water in both legs is halfway up, remove the syringe

Fig. 2 Bubble-free filling of the U-tube

After the pressure gauge with the plug 5 has been firmly inserted into the tube 7, the ventilation screw 9 must be opened so that the (slight) overpressure of the can is equalized and the pressure gauge liquid is at the same level in both legs. The can must then be closed tightly again so that no water enters during the measurement. The scale 4 is clamped onto the middle tube of the manometer and the metal tube 7 so that the zero mark is at the level of the liquid level. To carry out the experiment, the pressure cell is held in place with the aid of stand material, whereby the metal tube 7 is clamped in a universal clamp. The immersion depth can be varied by opening the universal clamp and moving the pressure box. To investigate the directional dependence of the hydrostatic pressure, the probe immersed in the liquid is rotated using the cord wheel 6.

4 EXPERIMENTS

Meaurement of the hydrostatic pressure with a pressure element P1423100



5 ACCESSORIES

Replacement membranes, 5 pcs. 02635-01

6 WARRANTY

We give a warranty of 24 months for units that we have suppliedinside the EU, and a warranty of 12 months outside the EU. The following is excluded from the warranty: damage that is due to non-compliance with the operating instructions, improper use or natural wear. The manufacturer can only be held liable for the function and safety-relevant properties of the unit if the maintenance, service and modifications of the unit are performed by the manufacturer or by an institution that is expressly authorised by the manufacturer.

7 WASTE DIS OSAL

The packaging mainly consists of environmentally-friendly materials that should be returned to the local recycling stations.

Do not dispose of this product with normal household waste. If this unit needs to be disposed of, please return it to the address that is stated below for proper disposal.

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