

## **Instructions for use of the TFA fluid barometer**

### **A. General aspects**

The barometer you have bought is a newly developed precision instrument to determine the atmospheric pressure and the variations in atmospheric pressure. Like on a counter-barometer, the reading is reversed, i. e. if the atmospheric pressure rises, the liquid in the glass tube drops, and if the atmospheric pressure drops, the liquid rises. The reading of the atmospheric pressure is either in hectopascal (Hpa) or in millibar (the old unit for atmospheric pressure) on a combined graduated scale on some units.

On account of its new design, you can precisely read minor variations in atmospheric pressure as well. The liquid used in the tube is generally recognized as physiologically safe, ecologically well tolerated, and degradable. Mercury has not been used!

### **B. Selection of the place of installation and hanging**

1. First of all select a suitable place of installation in your flat. You should hang the instrument in such a way that the centre of the unit is at eye level in order to permit an easy reading of the graduated scale.
2. When selecting the place of installation, pay special attention to the fact that the instrument must not be exposed to direct sunshine and major temperature variations (hence do not hang near a window or above radiators).

### **C. Making the barometer operational**

1. After you have hung the barometer safely in a vertical position, first remove the protective transport cap on the upper end of the glass tube by using a fingernail to lift it at the side pulling it to the top. If the upper end of the glass tube is covered up by the housing, please refer to the enclosed detailed instructions on making your barometer operational.
2. Now allow for the liquid to adjust to a certain point corresponding to the atmospheric pressure at your altitude at the time of first hanging. If you are at a location of higher altitude, the liquid column will rise a bit as the absolute atmospheric pressure decreases with rising altitude, respectively the other way around, i. e. at sea level the liquid will drop a bit as the absolute atmospheric pressure increases with decreasing altitude.

If the liquid column drops very fast after opening, it may happen that small amounts of liquid remain in the upper part of the tube. However, this is no fault, but rather a normal condition caused by the special consistency of the liquid.

You can remedy this state very easily by taking the barometer from the wall and holding it inclined until the rising liquid column makes contact with the remaining amounts. Subsequently, bring the instrument into vertical position again very slowly so that the dropping liquid column does not leave any residual amounts in the tube.

### **D. Setting the barometer to the real atmospheric pressure relative to sea level**

1. Allow for some hours to pass by between the removal of the covering cap as described under (C 1.) and the setting of the barometer to the real atmospheric pressure so that the instrument can adjust to the new pressure and temperature conditions.
2. The weather reports on radio or TV can be used to find out the real atmospheric pressure relative to sea level or you can enquire with your local weather station. After you have found out the atmospheric pressure, simply move the entire scale plate until the atmospheric pressure on the graduated scale corresponds to the liquid column.
3. If you set the indicator to the atmospheric pressure at the same time, you can determine the variations in atmospheric pressure.

### **E. Weather forecasts**

The forecasting period of your barometer extends over the next six to 18 hours. Thus, you can plan your outdoor activities, and in addition you will get a better understanding of our nature with its physical laws.

1. If the atmospheric pressure drops (the liquid in the tube rises), a change of weather to the worse may be expected. In summer, you will have to reckon with cooler weather, clouds, and some precipitation in the form of rain. In winter after a period of dry cold weather, you will have to reckon with an increase in temperatures and precipitation in the form of rain or snow depending on the temperatures. If the atmospheric pressure drops quickly and to a very low point, there is a good probability of heavy thunderstorms with gale-force winds occurring.
2. If the atmospheric pressure increases (the liquid in the tube drops), a change of weather to the better may be expected. In summer, you may reckon with a period of good weather. The temperatures will increase and you may also expect more sunshine. In winter, however, the temperatures will drop and you can reckon with a period of dry cold weather. If the atmospheric pressure increases slowly but constant, the period of good weather is persistent as a rule, but atmospheric pressure increases quickly, the good weather will last for a short period only.

### **F. Transport**

If you want to transport your barometer, the glass tube has to be closed up again at the top before the instrument is brought into a horizontal position. Simply use a small amount of Plasticine or chewing gum which you press on to the upper opening of the tube. Do not use any liquid glue! If the tube has been closed up properly, no liquid will flow to the top in horizontal position.

We wish you a lot of fun using your new TFA barometer for your own weather forecasts.