

INSTRUCTION FOR SETTING OF BAROMETERS

It is well known that air pressure decreases the greater the height above sea-level. For that reason meteorologists base all their measurements of air pressure on sea-level height, so as to have a constant value for weather-maps and weather-forecasts. We, therefore, recommend to adjust the aneroid-barometer in the same way so that your readings will be based on sea-level air pressure.

The barometer is set by the manufacturer for a determined height above sea-level which is shown on the box. Because this altitude is usually not the same as the height at destination it is suggested that you have your barometer adjusted when you buy it.

For local altitudes above 2,600 feet (800 m) we recommend free adjustment in our pressure chambers which kindly stipulate with your order.

Comparison method

A simple method for the adjustment of barometers is the comparison method. For this method there is no need to know the local altitude. The weather forecasts usually give the air pressure values in millibars, inches or millimeters of mercury. The barometer dials are divided in these pressure units and you may adjust the barometer to the value which is given in the weather forecast. It is advisable to check the adjustment several times. The comparison of air pressure is at its most reliable if the weather forecast reports a constant high-pressure zone.

Numerical calculation of the altitude-correction

If you know the altitude at destination and the altitude for which the barometer has been set by the manufacturer you can calculate the correction numerically. You remember that air pressure decreases about 0.1 inch of mercury per 91.5 feet of increase in altitude (1 mbar per 8 m). Is the ultimate destination situated lower than the altitude for which the barometer is adjusted, move the pointer anticlockwise to the lower pressure which you have calculated.

Example:	Altitude for which barometer has been set:	660 feet (200 m)
	Local altitude:	290 feet (90 m)
	Difference:	370 feet (110m)

The pointer has to be moved by $370 : 91.5 = 0,4$ in Hg
($110 : 8 = 14$ mbar) to the lower pressure.

If you have calculated the value and direction of the correction adjust the pointer to the calculated air pressure value by tuning the brass screw which you see in an opening of the back cover. Please check the adjustment by tapping on the glass.

Rules for weather-forecasts

1. At air pressures of 1020 mbar (30.1 in Hg) or higher, you can expect calm and dry weather. The higher the pressure the less changeable is the weather. In summer we have fair weather, in winter clear frost but fog is also possible.

2. At pressures between 1005 and 1020 mbar (29.7 - 30.1 in Hg) the weather is changeable. After short bright spells follow showery weather.
3. At pressures below 1000 mbar (29.5 in Hg) the sky is mostly cloudy and the weather is tending to rain. If the pressure falls considerable below 1000 mbar, you can expect storm.
4. Slow and constant increase in air pressure is characteristic of a tendency to better weather, where as steadily decreasing pressure indicates deteriorating weather.
5. A rapid increase is usually succeeded by a drop in pressure and is characteristic of changeable weather.
6. In Summer a sudden rapid fall indicates the approach of a thunderstorm.

Temperature and humidity in the house

Often barometers are combined with a thermometer and a hygrometer. Thermometers and hygrometers are measuring instruments of the climate in your house. You feel comfortable at room temperatures between 64 and 72 °F (18-22 °C) and at humidities between 45 and 70 per cent.

Where as the relative humidity outdoors changes frequently during the day the humidity indoors remains almost constant. It changes only with the seasons. In summer we have 50-75% relative humidity but in winter only 25-40% because in winter there is a great difference between the indoor- and the outdoor temperatures.

Adjustment of thermometers and hygrometers

Although the adjustment of thermometers and hygrometers is done in our factory, in certain cases, for example after strong shaking during transport, a new adjustment may be necessary.

The adjustment of the HYGROMETER is effected by inserting a screwdriver into the opening on the back. You put the screwdriver into the slot of the measuring spiral spindle and adjustment is effected by turning.

If in a mercury THERMOMETER the mercury shows gaps it is possible to reunite the mercury by unscrewing the thermometer if it is on a combined barometer/thermometer/hygrometer weather station, grasping it and giving it short, sharp jerks downwards. Then screw it back on the base.