

rain[e] Series



PRECIPITATION SENSOR

Weighing, automatic drain

Basic functionality of the rain[e] series

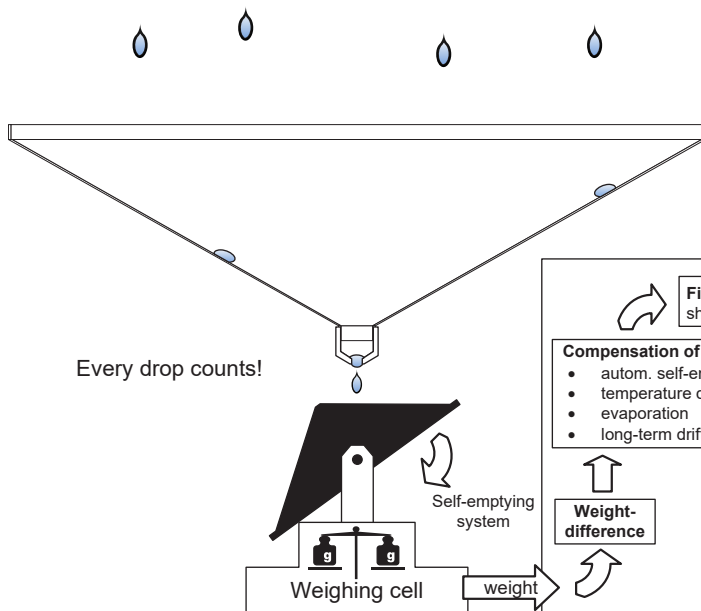
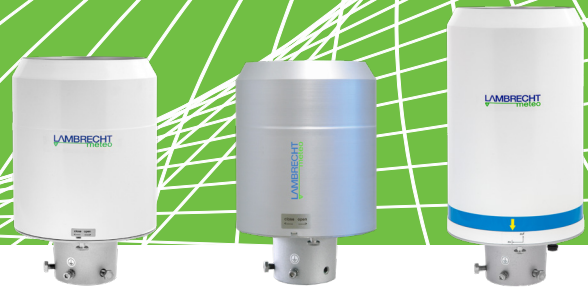
The functionality is illustrated by the diagram below. The precipitation is collected by the funnel with its standardized collecting area. Solid precipitation, such as snow, is melted by the intelligent heating. The collected precipitation passes the funnel through the drop former and ends in the self-emptying collecting system, where the drop is immediately weighed.

Not the absolute weight is measured, but the weight increases compared to the previous measurement. Due to the high sampling rate, the long-term drift of the weighing cell and evaporation are compensated almost automatically.

Once one of the measurement chambers is filled, the collecting device tips over, empties itself, and measurement continues in the second chamber.

During the tipping process, the rain[e] performs corresponding compensation calculations. In addition, the rain[e] monitors its interior temperature and compensates for the temperature drift of the weighing cell.

In the subsequent filter stages, influences from wind, shock and vibration are filtered out. This and the funnel make the rain[e] almost insensitive to wind. After filtering, the measured increase in weight is evaluated and, in the simplest case, output as a rain event. Evaluated on the context that in the case of 200 cm<sup>3</sup>-collecting surface 20 mg  $\triangleq$  0.001 mm, the amount of precipitation is calculated with a resolution of 0.001 in mm and displayed as total since last release or total quantity since system startup.



rain[e]

