



Float principle

The EM-TECHNIK flow meters are based on the float principle. The flow measurement is given by the relationship between the forces acting on the float and the flow velocity of the medium measured inside the measuring tube. At a constant flow velocity the float stabilises at a specific height inside the conical measuring cylinder. In this position the forces acting on the float are in equilibrium. This means that the weight (G) of the float is lifted by the buoyancy force (A), the amount of medium displaced by the float and the flow force produced (K) by the flow.

$$G=A+K$$

If the flow velocity changes, for instance due to a pressure change, the float rises or falls in the measuring cylinder to a larger or smaller equilibrium corresponding to the changed flow force. The position of the float corresponds to a specific volumetric flow and can be read on the scale on the measuring tube as a flow rate.