

1.4 What the leak locator has to know about a water supply

It has been mentioned above that data loggers can be connected to the inlet measurement of a water supply. This statement only applies to specific kinds of water supplies.

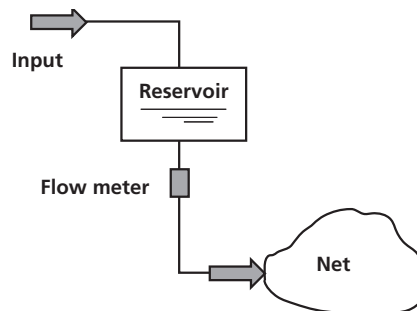
Therefore, let's take a basic look at the construction of a water supply:

Picture 20 shows the typical construction of a water supply. Here, water is taken from the underground, from a river, a pond or from a water deliverer and lead to an overhead reservoir. The overhead reservoir has two basic functions:

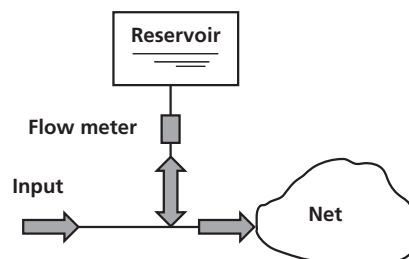
- it represents the balance between water reception as constantly as possible and the different consumer usages.
- It determines the pressure altitude in the distribution network

From the overhead reservoir (it can be several), water flows through one or several gravity-feed pipes to the supply network. One can easily install a flow measurement into the inflow pipe that will detect even the smallest night inflow.

Picture 21 shows a different kind of water supply. Here, water is let in not through the overhead reservoir but directly into the network. The water quantity not used in the network is lead into the overhead reservoir. In opposite to picture 20, the pipe to the overhead reservoir is not only flown through in one but in both directions. A measurement of the smallest night inflow as in picture 19 would not be possible, since the water inlet is



Picture 20: Water supply with overhead reservoir from where the water goes to the network only



Picture 21: Water supply with overhead reservoir that receives water from the pipe network and gives it back (2 directions)

mostly performed at night, in order to save energy, so the overhead reservoir is filled during night hours. Also in this case, however, measuring the smallest night inflow is possible, provided that the inlet pumps (mostly automatic) remain turned off at the time the smallest night inflow is most likely to occur (e.g. between 2:00 and 3:00 o'clock at night).