

## UNBOXING GRID POTENTIAL

Installing smart consumer meters is only a glimpse of the potential value data can provide.

Between smart meters and water pumps, there are few or no data collecting devices at all. But there are thousands of points where useful data can be retrieved from. If you have the right tool, transparency is right at hand.

## DATA GROWS IN VALUE THROUGH USE

Combining all data from the distribution network in one system gives the opportunity to analyse information coming directly from important points in the network. That way, you have a collective overview and a way to find information faster.

# AVK SMART WATER IOT SENSORS

*Battery-operated IoT sensors are game-changing when talking transparent network. AVK Smart Water's sensors are set up with an interface that reads data, and makes it easily integrated into your preferred IT system. That way, data from multiple sources can be combined and create a collective overview of the water network.*

*Read more about our IoT sensors and choose the ones that accommodate your needs.*

Expect... **AVK**



### **VIDI Positioner**

Avoid time-consuming tasks such as searching for anomalies caused by a wrongly positioned valve. With VIDI Positioner installed, you get continuous monitoring of critical valves, which will increase reliability of flow and pressure measurements in the distribution network.

VIDI Positioner indicates in percentages 0-100 how much the valve is open. That way, it is easy to detect if valves are rightfully opened or closed. Due to its battery and communication technology, VIDI Positioner is easy to install and can transmit data to any preferred IT system even from underground installations.



### **VIDI Cap**

Monitoring fire hydrants is a great way to detect tampering. With sensors installed on fire hydrants, it becomes easier to distinguish between real water loss or necessary use of water.

VIDI Cap provides valuable insights into the use of hydrants by remotely monitoring any operation of the cap. That way, you will be able to monitor any attempt to tamper with the hydrant, and even get an immediate warning in case of a collision. In addition, monitoring fire hydrants can help to control the risk of contamination.

**VIDI Pressure**

Adjusting pressure to consumption will balance out pressure fluctuations, increase the lifetime of pipes, and optimise the amount of energy used by pumps.

With VIDI Pressure, you can get an overview of the pressure levels in the distribution network, which makes it easier to discover fluctuations. Due to its battery and communication technology, VIDI Pressure can be installed in chambers, wells or pits and still transmit data.



**VIDI Temperature**

Water temperature in the distribution network varies depending on different parameters, which makes it necessary to monitor the temperature on an ongoing basis.

VIDI Temperature measures and transmits the water temperature from -20° up to +80°, which will help you keep the recommended temperatures to avoid bacteria formation. Due to its flexible design, VIDI Temperature can easily be installed at selected points in the network.



**VIDI Flow**

Making DMA inlet meters remote read can help you continuously monitor the water balance and, in the end, detect leakages faster.

With VIDI Flow connected to the pulse output of the flow meter, you will get an overview of the amount of water going into the DMA.



**VIDI Open/close**

Detecting the open/close position of different assets in the distribution network makes it easy to maintain an overview.

VIDI Open/close can be installed on many different assets and in different applications, where there is a moving and a fixed part. A signal is transmitted every time the asset changes position.



**VIDI Level**

Measuring the distance to the nearest surface is important when monitoring sand traps or wells.

VIDI Level allows you to measure e.g. water or sand levels without the need for direct contact with the medium. Due to its flexible design, VIDI Level can easily be installed in sand traps or chambers and warn about flooding.



# SENSOR APPLICATIONS

## Pressure monitoring

An essential part of pressure management is to monitor the pressure level throughout the network. To be able to rely on these measurements, it is important to verify that valves in the network are either completely open or closed, as a partly closed valve will increase demand from pumps to keep the correct pressure to all customers. It is also important to monitor the use of hydrants as an abnormal water flow will cause a pressure drop in the connected pipes, and thereby at the end-consumers.

By installing pressure sensors throughout the network, utilities can monitor fluctuations and minimise wear and tear on pipes.

## Leakage monitoring

In efficient leakage detection, it is important to know the position of boundary valves as a wrongly positioned valve will interfere with pressure and flow measurements. As a result, it can disrupt the leakage detection system.

By implementing sensors to measure flow and pressure throughout the network, it is easy to set up automatic monitoring of the balance in each sector and detect leakages or bursts.

## Tamper detection

A major contributor to water loss is theft through hydrants or from temporary outputs. Therefore, it is important to monitor water outputs that are more accessible than others. For example, assets located in solitary places in the network or on development sites.

By installing sensors on high-risk assets in the network, utilities can detect hydrant accidents, vandalism, and water theft. With continuous monitoring, it will become easier to separate water loss through fire hydrants from water loss through bursts with data directly from the hydrants.

## Operation insight

In the daily operation of the distribution network, general insights are important to ensure full functionality of the system. Regular maintenance of hydraulic assets is necessary to ensure that the assets will stay operational and will work as intended in case of an emergency or during repair work.

If a valve is not operated at all, it may seize up or become difficult to operate, making the repair work difficult and time-consuming, and lead to longer disruptions for the consumers. By installing sensors on selected points in the system, down-time can be reduced.