



EXPECT...LASTING INNOVATIONS



## AVK SMART AIR VALVE PREVENTS POLLUTION INCIDENT AT UK'S FIRST DESIGNATED RIVER BATHING WATER SITE

### How VIDI is Helping to Address Network Challenges

In 2020, a stretch of the River Wharfe in Ilkley became the first to receive designated bathing water status by the Environment Agency. The bathing water site, known as 'Wharfe at Cromwheel, Ilkley', is hugely popular with over 1,700 people a day paddling, swimming and using the riverbank at peak times.

Achieving bathing water status triggers a number of actions, including regular testing of water quality by the Environment Agency. Recently, however, an AVK ARLsense smart water air valve prevented a serious pollution incident at the site, after alerting the operations team to an incident which could have seen untreated sewage polluting the riverbank.



In 2021, Yorkshire Water trialled ARLsense smart water valve technology in Kilnsey, a small village in North Yorkshire. The trials proved successful and led to two DN80 ARLsense smart water air valves being installed on a 225mm ductile iron rising main sewage pipe which, for a short distance, runs close to the River Wharfe. Standard air valves are vital to network efficiency and safety. However, in areas where FOG (fats, oils, greases) pollution builds up, there is a risk of the air valve clogging. In turn, this could lead to the discharge of untreated sewage into the local environment.

The ARLsense smart air valve alerts the Yorkshire Water operations team when there is clogging, overflow risk or leakage. In the most recent incident, the ARLsense smart water air valve alarmed after detecting a potential overflow risk. Responding quickly to the alarm, the Yorkshire Water team identified that the air valve had clogged with fats, oils and greases to the point that the integral float was no longer operative risking an escape of untreated sewage.



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## AVK UK's Smart Water Team explain:

'At Ilkley, there were two primary risks caused by the FOG blockage. Firstly, the sewage pipe risked bursting due to vacuum or over-pressurization as the air valve was not functioning due to the blockage; a burst would have caused considerable damage and pollution. Secondly, the blockage had caused the air valve's float to cease functioning. The float acts to seal the valve and, if this is not the case, there is a risk that raw sewage would have poured out from the valve itself.'

In this particular incident, the ARIsense smart air valve overflow alarm alerted Yorkshire Water to the risk and they were able to intervene and return the sewage pipe to full capacity in quick time.

The random and unpredictable nature of FOG blockages means this is one of the few instances where reactive maintenance is likely to be more effective than planned maintenance. Once the blockage had been cleared by cleaning the valve internals, it was business as usual.'

**ARIsense smart air valves are just one element of AVK's comprehensive smart water offer.**



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