



Case Study

North Yorkshire, UK

Improving monitoring in areas with high environmental risk.

Background

The picturesque village of Kilnsey in Wharfedale, North Yorkshire, lies just across the River Wharfe from the settlement of Conistone. The local water supply and treatment utility company is Yorkshire Water.



Challenges No margin for error

Due to the undulating nature of the local terrain, there are three wastewater air valves on the rising main between Kilnsey and Conistone. Two of these air valves are located either side of the river crossing. It is vital that these air valves function effectively; any faults could lead to the pollution of the River Wharfe, leading to both an ecological disaster and the possibility of a fine. The critical nature of these valves made this an ideal location for an ARISENSE smart air valve to be installed.

Solution Comprehensive monitoring

The valves installed included both internal sensors to track performance, issue alerts of any internal faults and record the pressure of the valve, and an external sensor to monitor the water level in the chamber, which was potentially prone to flooding in the event of high rainfall.

The ARISENSE smart air valves provide feedback on a range of key operational parameters, including overflow, leakage, blockage, pressure, tampering, tilt/shock, low battery and, with the addition of the external sensor, chamber flooding. If any of the sensors, internal or external, is activated, email and text messages are sent to all subscribed users.

Aquestia's local representative for A.R.I. products worked closely with the client and installer to ensure that the smart air valves met the requirements of all parties, including Yorkshire Water's cyber-security protocols.



Results Double checks ensure accuracy

The trial of the ARISENSE has already proven its value. In one occurrence of heavy rainfall, the external sensor registered a flooded chamber alert. The internal sensors however did not register any issue with the sewage inside the valve, so it was clear the issue was the high river level. This combination of sensors enables Yorkshire Water to monitor and correctly react to any problem, well before there is any risk to the River Wharfe.

