



CRITICAL PUMPING STATION PROTECTED BY AVK UK'S INDUSTRY LEADING VALVES

A critical water pumping station demanded precise control of flow and pressure to avoid potentially dangerous fluctuations in the system that could spiral into severe damage or even catastrophic failure.

AVK UK's valves were chosen to protect this vital section of the water network, to mitigate the chances of burst pipes, damage to other assets, disruption to customers, an increase in non-revenue water, and greater network maintenance costs.

Fed by a borehole, the pump activates when water turbidity level (cloudiness) rises too high, initiating a "run to waste" process that flushes the system until the water is clear.

When filling and draining, there would be a significant risk of vacuum conditions that could ultimately lead to bursts or, conversely, pipeline collapse and water leakage on the network. The pump could also be damaged by a reverse flow of water but, equally, sufficient back pressure was required to prevent the pump going into overspin.

Anthony Whittam, Head of Smart Water and Pressure Management for AVK UK, worked closely with the customer on an effective and efficient solution, using a variety of valves to manage the constantly shifting flow and pressure demands and to ensure safe operation. That included:

- Upstream from the pump, an AVK UK Single Large Orifice Air Valve 701/30 was installed to clear the pipeline of air when filling and reintroduce air when draining. <https://www.avkuk.co.uk/en-gb/product-finder/air-valves/air-valves/701-30-010>
- Then an AVK UK DN300 Series 41 Swing Check Valve with lever and weight ensures rapid closure of the pipeline to protect the pump from any reverse flow. <https://www.avkuk.co.uk/en-gb/product-finder/non-return-valves/swing-check-valves/41-36-009>
- Finally, an AVK UK DN300 Series 879 Pressure Sustaining Valve (PSV) maintains an upstream pressure of 2.5 bar and sufficient back pressure to ensure the pump is working effectively. <https://www.avkuk.co.uk/en-gb/product-finder/pressure-and-flow-control-valves/control-valves-pilot-operated/879-101x99-001>

Anthony said: "The system ensures the reliable operation, effective air management,



Pictured is the pumping station, and inset, the chamber housing a AVK UK DN300 Series 41 Swing Check Valve, and a DN300 Series 879 Pressure Sustaining Valve (PSV).

and robust protection of this vital section of the water network.

“At AVK UK, we are committed to delivering high-quality water management solutions, with this project being a great example of the comprehensive range of valves we provide.

“All our products are made to the same high standards and come with staff training opportunities, first-rate product support, fast delivery times, favourable servicing terms, product performance and local manufacturing.

“For example, our Series 879 control valves are assembled and tested at our dedicated facility in Kilmarnock, Scotland, where we’re now inviting customers to visit for a tour and training opportunity. We will provide an in-depth look at our manufacturing processes, demonstrate our unique dynamic testing rig, and introduce our expert team.

“Although not required on this particular project, we also offer an extensive range of Smart Water digital monitoring solutions, giving utility providers the ability to remotely collect data from assets in the field. Our sensors work with all AVK UK core products, including gate valves, fittings, and hydrants. They include VIDi Flow, VIDi Pressure, VIDi Positioner, VIDi Open/Close, VIDi Temperature, and VIDi Level among our other options.”

For more information on AVK UK’s products and solutions or to book a visit to the assembly and testing facility in Kilmarnock, contact our Water Network Specialist Anthony Whittam on 07718 479 581 or email him at anwh@avkuk.co.uk