



CLA-VAL APPLICATION NEWS

ARLA FOODS – Tank Level Control Valve

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Arla Foods are one of the biggest producers of dairy products in the UK. They produce approx 2 billion litres of milk per year at their dairy in Stourton, Leeds.

To help achieve this, they require a purpose built water storage facility fed via a 10" main from Yorkshire Waters distribution network.

Tank water levels are managed by limit switches installed at varying levels along the side of each tank, simple air actuated butterfly valves providing a means of control to open/close dependant on level.

The accumulative affects of a high inlet pressure of 8 barg, a high flow rate of 110 l/s and fast acting butterfly valves (2-3 second cycle times) generated pressure transients in the upstream pipework causing the weaker mains on the network to burst.

Cla-Val were invited to offer a solution which involved providing a control valve able to not only actuate far more slowly to eradicate pressure transients, but also to limit the flow to a more manageable 58 l/s into the tanks. Moreover, all of these requirements needed to be presented on one valve.



Our solution was a 150mm single solenoid control valve (24VDC) to control open/closure from the tank level switches. A flow limiting feature in order to limit the flows rate to 58 l/s and a surge control pilot to ensure that the valve would automatically modulate open in the event of sudden increases in upstream pressures to protect the Yorkshire Water pipelines.

The valve control speed is fully adjustable via the speed control valve (cv valve) installed on the valve. A valve position feedback transmitter (e-Lift) was also fitted allowing Arla Foods visibility through their plc system.

In conclusion, pipeline damage is no longer an issue for either Arla Foods or Yorkshire Water.

