VALVTECHNOLOGIES

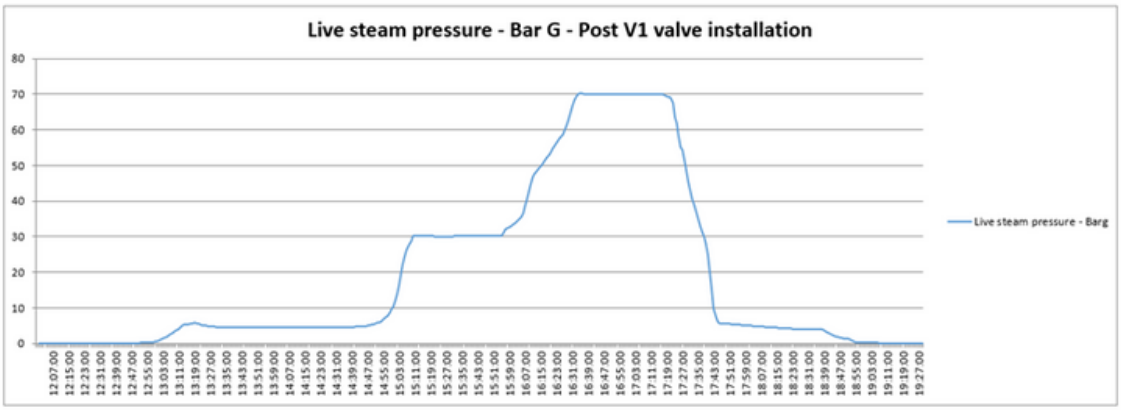
Case Study

Reducing Costs and Improving Efficiency with V-Series Ball Valves

Location: Kent, UK
Plant type: Waste-to-Energy
Industry: Conventional Power
Application: HP Steam System
Product: V Series DN15, DN25 & DN40 Class 900
Quantity: 100

An ultrasonic survey in 2014 revealed steam losses costing £23,000 annually. Boiler tests also faced pressure loss challenges. In 2016, V1 ball valves were installed, solving these issues.
Benefits:

- Cost Savings: Reduced maintenance by eliminating low-quality valve replacements.
- Improved Accuracy: Enhanced hydrostatic test reliability.
- Reduced Specialist Services: Lowered dependence on costly plant isolation methods.
- Enhanced Safety: Minimized risks from hot pipework exposure



Background:

In late 2014, before securing the CAPEX for this project, we conducted an ultrasonic energy emission survey to assess steam losses through our existing drain valves. The survey revealed a total fluid loss of 72.4 kg/h and 56.8 kWh, which at that time translated to an annual cost of approximately £23,000.

Challenge:

Before the installation of our ball valves in 2016, performing accurate boiler hydrostatic tests after pressure parts work during outage periods was challenging. The boilers experienced a pressure loss of around 10.0 Bar G during a 30-minute hold. However, after installing the V1 ball valves, this pressure loss has been reduced to less than 1 Bar G over the same period.

Solution:

The valve end caps required specialized welding procedures due to the materials used, though alternative options that don't require this were available but unknown at the time.

Additionally, the valve handles were designed to be long to accommodate the pressure differential and torque needed to operate them. To prevent interference with adjacent valves and equipment, we had to install the valves at a 45° angle.

Cost Savings: We no longer spend money on low-quality sacrificial valves that fail quickly and provide poor isolation. The new valves offer reliable, long-lasting performance.
Improved Accuracy and Confidence: Our boiler hydrostatic tests are now more accurate, giving both us and our insurers confidence that our pressure system maintenance is successful and that steam losses are minimized.
Reduced Need for Specialist Services: The valves significantly reduce the need for costly and time-consuming specialist services, such as hot taps and line stops, which were previously required for online isolation of the plant.
Enhanced Safety: These valves eliminate the risk of personal injury from hot pipework and valve bodies. Since the valves provide complete isolation, no flow means no exposure to high temperatures.