

## 6<sup>th</sup> Form College, Hampshire

In the heart of Hampshire countryside, on the edge of the South Downs National Park, lies the medieval city of Winchester, famed for its stunning cathedral and its connection with the legend of King Arthur and the round table.

It is a centre for learning with numerous well-known colleges and schools, and we have been fortunate to run a service contract at one such establishment, a 6<sup>th</sup> Form College right in the city centre, originally a boys' Grammar school from Victorian times.

### Problem

It was noted that water was flowing into the soft water storage tank, but at a very slow rate due to the presence of a conventional type of ballcock, and the tank being almost full the majority of the time. This low rate of service flow was well below the water softener meter's minimum service flow requirement of 13 litres per minute (780 litres per hour).

This meant that the throughput of water was so low that the water softener's meter would not register, and in the absence of a calendar override backup, would cause regeneration to take place too infrequently to maintain the continuous flow of soft water to the site.

Furthermore, these periods of very low flow to service encouraged water to 'channel' through the resin bed (i.e. the hard water follows a path of least resistance through a small channel within the resin bed rather than pass through the whole bed as it should) causing hard water slippage.

### Solution

The conventional type ballcock in the soft water storage tank was causing both 'trickle flow' (insufficient



water throughput to register on the system) and also 'channelling' (where water does not flow efficiently and uniformly through the resin bed) within the softener. We identified the issue and recommended the ballcock be replaced with a more appropriate modern delayed-action ball-valve such as a Keraflo or Aylesbury float valve.

### Conclusion

The conventional type ballcock in the soft water storage tank was replaced by a Keraflo valve to ensure correct operation of the metering system and to eliminate any possibility of channelling through the water softener resin bed.

The water softening plant is now working correctly and should maintain consistent soft water to service.

The client was extremely happy with the quick turnaround and high standard of work carried out.

## 6<sup>th</sup> Form College, Hampshire



### Conventional ball-cock

Encourages 'trickle flow' which disrupts the effective operation of a water softener on the tank feed leading to hard water passing into the system – a known issue for legionella control.

### Modern delayed-action ball-valve

Prevents 'trickle-flow' by allowing the tank to fill at a faster rate allowing a water softener on the tank feed to pass softened water.

Manufactured by Keraflo -

