Churches FIRE & SECURITY CFS

AIRBUS

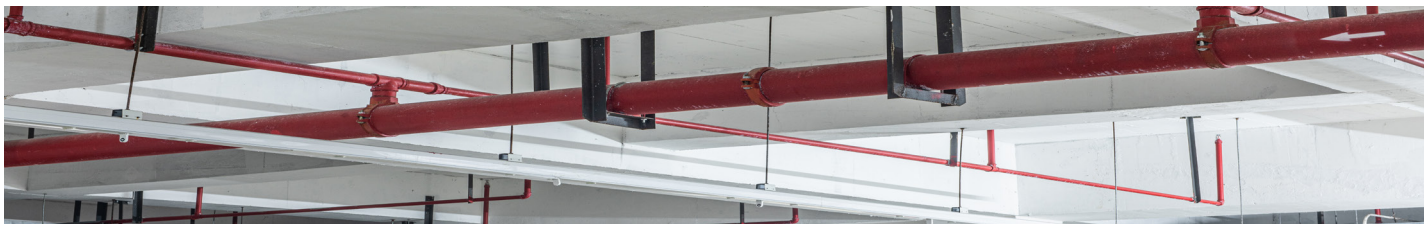
Sprinkler Pump Water Recycling Innovation – Saving 8.4 million Litres Annually

In support of our client's ambitious sustainability goals, our team developed an innovative solution to significantly reduce water waste during sprinkler system maintenance. By redesigning the way cooling water is managed during routine fire pump testing, we now recycle approximately 8.4 million litres of water each year.

The Challenge

To remain compliant, these systems require a 30-minute weekly test, during which technicians must observe the discharged water to ensure it remains clear. However, this compliance requirement meant that vast quantities of water were routinely wasted, as large volumes of water were discharged to drain.

As a CBRE customer, Airbus was keen to explore a more sustainable solution in line with CBRE's environmental commitments. Our challenge was to design and implement a system that would reduce water waste without compromising compliance, safety, or performance.

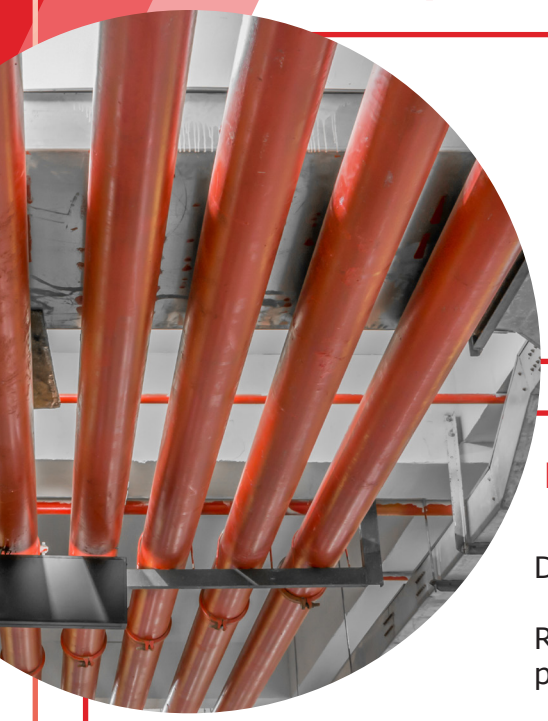


Our Approach

Our team conducted detailed flow rate measurements and performance calculations for all active fire pumps on-site to assess the potential for water recycling. We then designed a solution that captures and redirects the water used during the weekly testing back into the site's sprinkler storage tanks, rather than discharging it to drain.

To maintain visibility of water clarity and meet compliance standards, sight glasses were installed in the system. This was to allow technicians to visually inspect the water during and after each test. This design ensures the system remains fully compliant with the LPC Rules incorporating BS EN 12845, while drastically reducing water consumption.

Key Findings and Calculations



Electric Pump

Discharge: 200 litres/min

Run time: 10 hours/week = 120,000 litres/week

Annual usage: 5,210,400 litres

Diesel Pumps (7 units)

Discharge: 200 litres/min

Run time: 30 mins/week per pump = 6,000 litres/week per pump (7 pumps)

Annual usage: 2,184,000 litres

Total Water Savings = 8,424,000 litres per year

The Outcome

- 8.4 million litres of water saved annually
- Full compliance maintained with fire safety regulations
- Improved environmental performance aligned with client sustainability targets
- Potential for wider rollout to additional sites following the success

Looking Ahead

Following the success of this project at Airbus Broughton, discussions are underway to potentially implement similar recycling systems at other sites. This initiative demonstrates how innovative thinking, strong client collaboration, and a commitment to compliance can deliver meaningful sustainability outcomes.