cyclife aquila nuclear
EDF GROUP

# Candle Filter Test Facility

**Client:** URENCO

**Containment**

## Aims and objectives

Aquila assisted with the specification, and then won the contract for the design, manufacture, assembly and Factory Acceptance Testing (FAT) of a candle test facility for the URENCO site. The candle testing rig was designed inside a modified Commercially Off The Shelf (COTS) fume cupboard which provided a safe means of testing the sintered metal filters in a methanol bath.

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# Project overview

Aquila was awarded the contract to design, manufacture, assemble, and factory test a Candle Filter Test Facility, providing a safe means of testing sintered metal filters in a methanol bath. The Aquila proposal included a filter testing rig located centrally within the Fume Cupboard, manufactured from 316 stainless steel.

The Fume Cupboard has a stainless steel liner and is freestanding on the storage cabinets below. The Candle Filter Test Facility is designed to have an operating aperture of 457mm drawing 1174m$^3$/hr and providing 0.5 m/s across the design opening. The Fume Cupboard is tested to ASHRAE 110:1995 and EN14175-3.

The main features of the Candle Filter Test Facility include:

- Modified Commercially Off The Shelf (COTS) fume cupboard with vertical sash and 316 ST/ST liner
- Filter Testing Rig for testing of sintered metal filters in a methanol bath
- Rotary handle for moving the filter through a full 360° axis
- Ventilated Storage Cabinets for housing of the methanol carboy and diaphragm pump
- Operator Control Station with HMI and data logging for recording bubble point and forward flow test results

The Fume Cupboard houses the filter test equipment and provides a constant flow through the aperture to protect the user from hazardous fumes from the Methanol.

Fume Cupboard features:

- Lighting
- Vertical Sash
- Storage Cabinets
- Fire Detection

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# Summary

During the production of the technical specification Aquila engineers worked with the users technical team and assisted with the development of a pragmatic functional specification. This functional specification effectively reduced the containment category classification resulting in a reduced cost and timescale. In preparation of the solution Aquila provided a 3D concept model demonstrating all design and operating features which were incorporated into the pricing on an open book basis.

## Contact us

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