



### Location

Avonmouth, Bristol

### Client

St Modwens

### Project at a glance

Form 2 Control Panel

Cylon BMS Controllers

Titan DC Window Actuator  
Interface

Room Override Control

Commissioned by BTS

The St Modwens HQ in Bristol is a modern office block with both open plan and individual working spaces.

The building heating and cooling is achieved by an optimised LTHW gas boiler plant and natural ventilation window and chimney stack actuators.

The ground floor open plan office temperature is maintained via an average reading from 4 room mounted temperature sensors. The first floor is a combination of both open plan and individual board and meeting rooms each with local room temperature sensors for optimal control.

Rooms are zonally controlled to maintain a preset set point (adjustable at the BMS control panel). Heating is enabled up to set point, and then natural ventilation windows and chimney stacks are opened to cool when above setpoint, with dead band between.

The windows are zonally controlled so that if a high wind speed is detected by the roof mounted weather station, the windows facing that direction can be closed. All windows are also closed when the weather station detects rain.

### Control System Overview

Cylon UC32 net controllers.

BTS supplied natural ventilation DC window actuators.

Titan DC Window Actuator proportional positioning controllers.

Roof mounted weather station, incorporating outside air temperature, wind speed, wind direction, and rain detection.

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Titan room temperature sensors with inbuilt manual override push buttons.

### **Systems**

Automated Natural Ventilation

Heating / Vent Interlock

Optimised LTHW Boiler Plant

Weather Station

Individual Room Controls

### **Special Control Features**

Window actuators opened proportionally to maintain space temperature levels.

Roof mounted wind catchers on chimney stacks open 1 degC earlier than room window actuators to cool the space without allowing the smell from the nearby docks to be so present in the offices (special request by the end user).

Optimised heating plant interlocked with natural ventilation so that the system will not heat whilst windows are opened.

Each office equipped with temperature sensor and manual override push button for optimal control, and user comfort.

### **Energy Conservation Strategies**

Natural Ventilation used as automated 'Free Cooling' so that an AC system is not required.

Radiator heating temperature modulated based on outside air temperature.

Cylon BMS utilises optimised time schedules so that plant enabled only as required to maximise economy.

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