CASE STUDY

UP CLIMBING

OUR MOST CHALLENGING BUILD

Project Overview

UP Climbing is a bouldering gym built in an old warehouse in St Kilda. The retrofit of the old building included a new roof with huge skylights that let in heaps of beautiful of sunlight, but also let in an unpleasant amount of heat.

Key challenges:

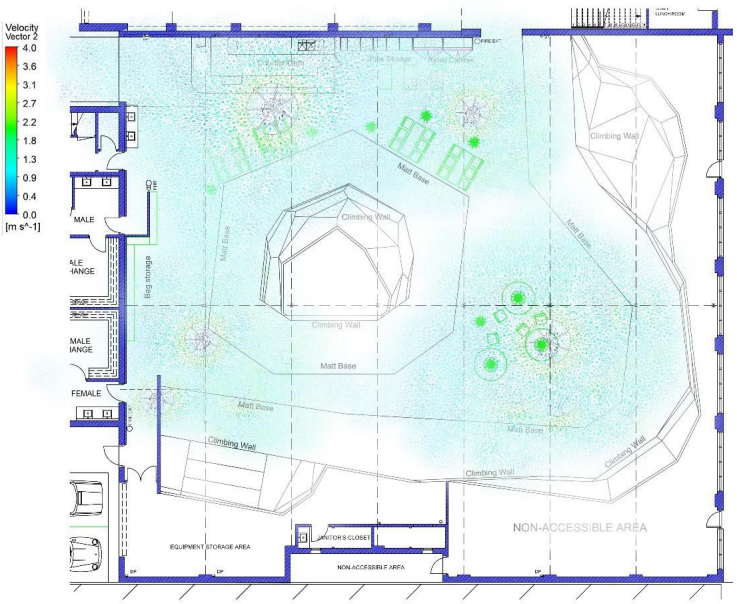
- A rock climbing wall in the middle of the building that significantly obstructed airflow
- Customers climbing to the ceiling, in close proximity to possible fan locations
- An older building with non standard beams and no structural engineering
- Fitness environment has higher demands for airflow than typical warehouse

FANFIT™ CFD Modelling

We offer our FANFIT™ airflow modelling service to all clients free of charge to give you the peace of mind that our recommended design will deliver the results that you need.

UP Climbing was the perfect demonstration of our FANFIT™ airflow modelling software.

The uniquely restrictive layout forced us to use smaller fans than we would typically recommend. Our airflow modelling tool gave us confidence that these smaller fans would still deliver the performance required.



STRUCTURAL IMPROVEMENTS

The compact brushless DC motors used in our SUNON fans keep the hung weight to a minimum, which most modern buildings can easily support. This was not the case at UP Climbing.

Point load and deflection testing of the trusses indicated that they would be fine to support the smaller Series 1 fans. But we were not satisfied with the mounting point for the larger Series 3 fan.

It is not typically required, but Zephyr has a structural engineering partner that can provide budget friendly solutions such as the UB15014 beam seen in the photos to the right.

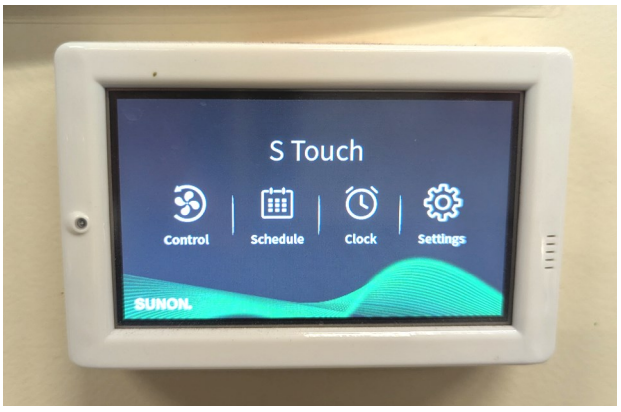
The challenges didn't end there. The trusses might have been strong, but they were too narrow for our standard mounting hardware. and custom brackets had to be laser cut to enable a vibration free operation.

Once fitted, the new beam was painted to colour match the existing steelwork.

MODBUS N30 CONTROLLER

It was important for the fans could be controlled by staff at the reception counter to quickly respond to changes in condition within the gym.

The 4 fans are controlled by Sunon's latest HVLS fan controller, the N30. This unit can control up to 30 fans from a single compact colour touch screen.



HEAT REFLECTIVE ROOF COATING

Lumiforte Cool FX is a temporary coating applied to skylights to reflect solar radiation. It is cheap, easy to apply, and lasts for 3-5 months.

In summer it reflects the heat of the sun, but when the weather starts to turn, the rain eventually washes away the coating, returning the skylight to 100% transparency.

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