



Using Airius Fans in Lieu of A/C Ductwork - Cooling Retail Outlets 99 Bikes, Belmont, WA.

Eco - Climate Solutions (ECS) mechanical contractors in Perth, were asked to refurbish the air conditioning and electrical works at the new 99 Bikes store in Belmont in Perth, WA. Their plan was to remove the ceilings and all the ductwork and they approached Airius about a design solution for mixing and distributing the conditioned air around the space, without ductwork. Airius proposed the use of 7 x Airius S1 Pearl fans and a speed controller, to be located in suitable positions to suit the customer's requirements and ensure mixing and distribution. Across the summer of 2018-19 the solution has been a great success.

CASE STUDY 2019



99 Bikes is an Australian wide business that specialises in the sales and maintenance of all types of pushbikes or cycles.

Gareth Halliday, General Manager at ECO - Climate Solutions, was contacted by 99 Bikes who are a regular client of theirs, to design and install an electrical and mechanical fit project for their new Belmont store and quote to achieve that aim.

Eco Climate solutions specialise in resource efficient air conditioning systems and energy efficiency products. After having read an Airius publication about the efficiency of the Airius fans as a low-cost substitute for air conditioning ductwork, they approached Airius to work up a solution.

The store is approximately 300 sq. metres in size and has a 4.5 metres high ceiling. Located in Perth, high temperature summer cooling as well as some winter heating efficiencies were key design criteria.

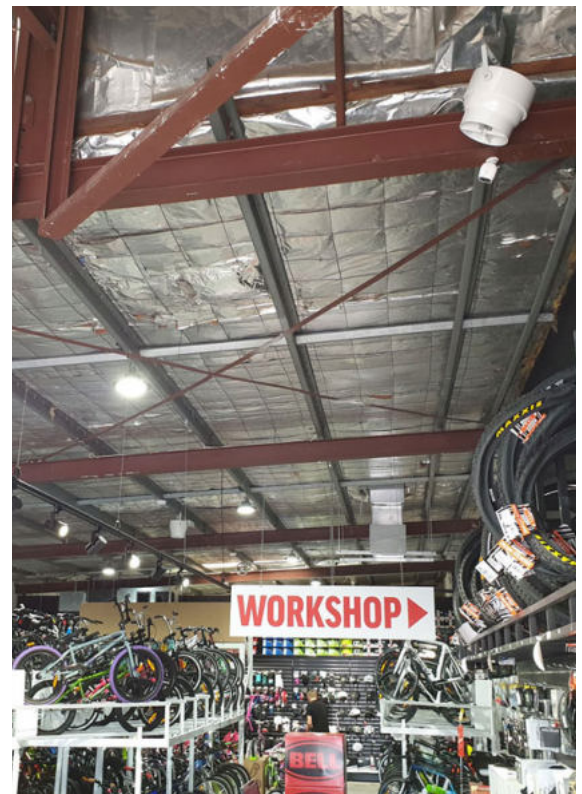
As the original ceiling was being removed to open up the space, Gareth designed a system to also remove all of the old supply and return ductwork from the four existing 14kW Panasonic ducted reverse cycle air conditioning systems. Eco -Climate Solutions (ECS) then simply supplied conditioned air out of the horizontal registers.

Four S1 Pearl Airius fans were located horizontally at the discharge points of the ducted units for air circulation and three more Airius fans were installed vertically around the space for de-stratification and air mixing, suspended just off the roof/ceiling to ensure there was adequate summer and winter air mixing throughout the space.

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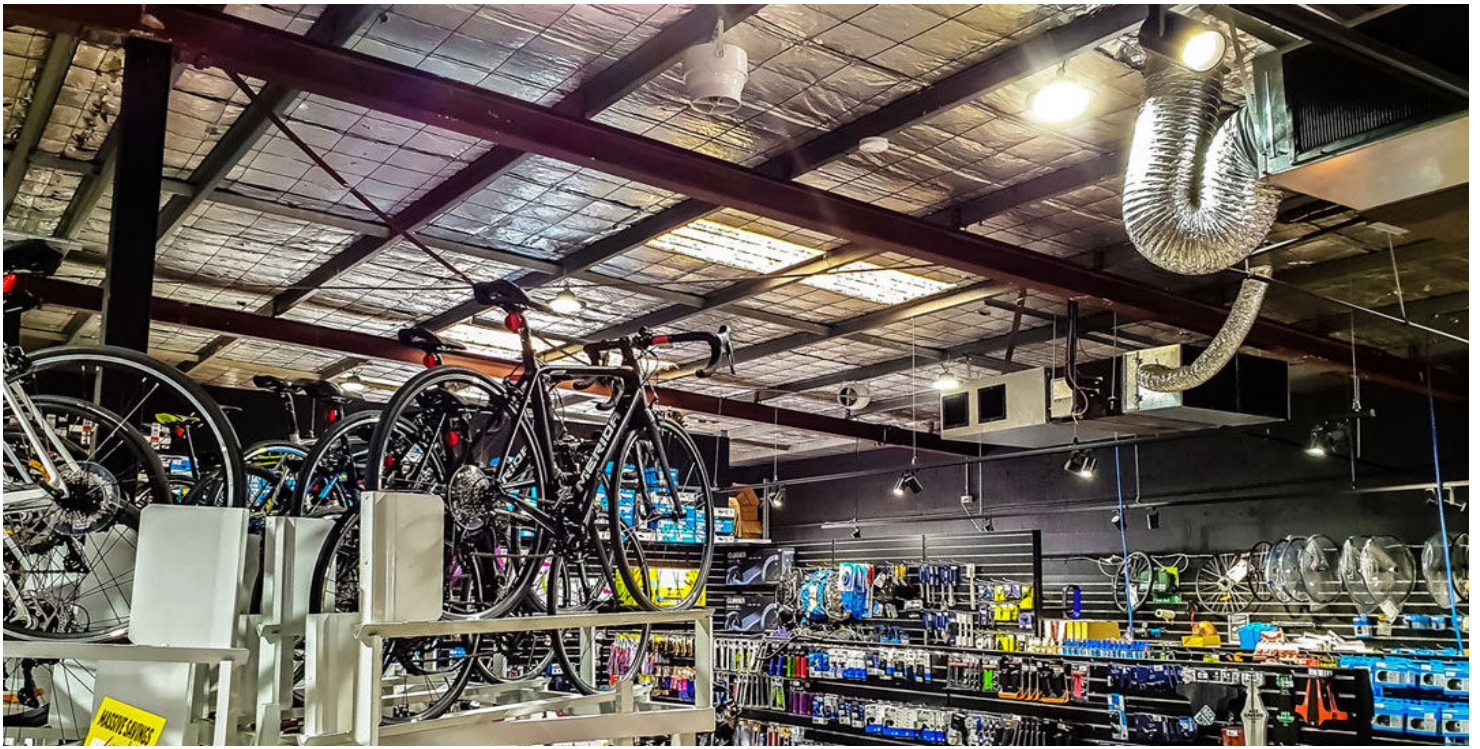
"We are really happy with the effectiveness and low energy properties of the Airius fans. They were very easy to install, and all seven fans could be controlled from one device as required. This is a great, cost effective way of traversing the aesthetics issues with flexible duct in open ceiling spaces."

Gareth Halliday
ECO - Climate Solutions



Airius installed: -

- 7 x Airius S1 Pearl Fans using only 14 watts each
- 1 x Airius SC-01 Speed Controller



This install took place in August 2018 and right across the 2018-2019 hot summer period, the client has been extremely happy with the thermal comfort in the store.

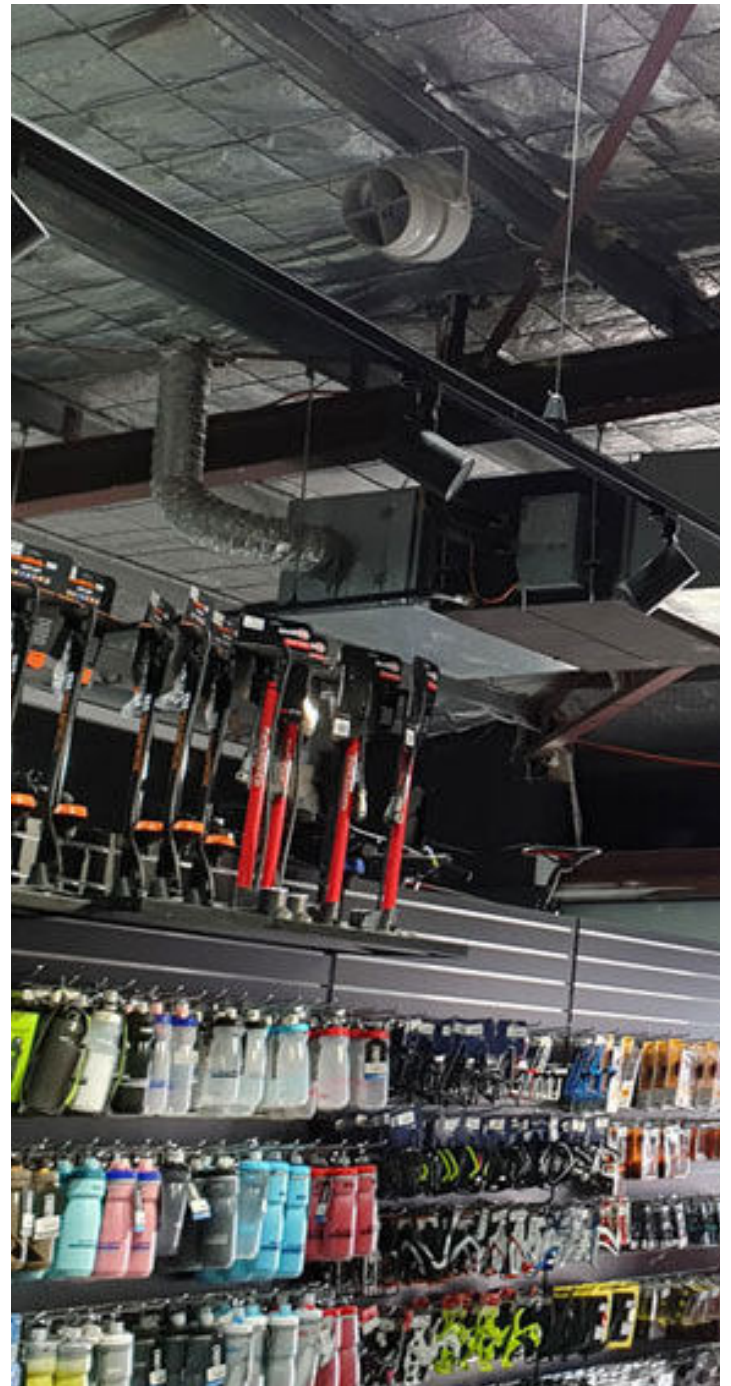
Gareth Halliday from ECS has advised they are also very happy with the result and are looking to undertake some detailed energy modelling of the facility over the next few months to understand the energy savings this type of innovative installation has created.

Gareth advises though, that significant energy and cost savings have certainly been achieved with the removal/non replacement of ductwork and the reduced static pressure issues combined with a substantial reduction in cap ex, materials, maintenance, coordination, commissioning and plant size expenditure.

Additionally, new opportunities arise for architects due to the open uncluttered ceilings and increased floor to ceiling height that offer even more opportunities from this type of install.

The overall result has been a success and ECS are looking to utilise this unique solution in further installations as the opportunity arises.

If you want to find out more about this exciting innovation...please contact **John Brodie** at **+61 (0) 401848888** or Gareth Halliday on **+61 (0)406159009**.



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