

Cooling in Warehouses

Lush Cosmetics, Western Sydney, NSW.

Lush Cosmetics, a large manufacturing facility, located in Villawood, in the very hot western Sydney suburbs, had a significant summer overheating problem in their Warehouse. Based on Airius' proven success for cooling in other warehouses and sports courts, they approached Airius to come up with a cooling solution.

CASE STUDY 2018



After some detailed research by Lush and design work by Airius, and a successful trial installation, Lush Cosmetics installed over 120 Airius Air Pear fans to provide cooling to their employees in February, 2018.

Warehouses are large spaces and in the Australian climate often have issues with overheating in summer. Current solutions are limited to: -

1. Air Conditioning - high capital expense and running costs
2. Large blade fans which results in:
 - Expensive installation
 - Aesthetics
 - Structural issues
 - Height restrictions
 - Interference with overhead cranes
 - Inability to control direction or placement of air flow
 - Turbulence
 - Impacts on forklifts
 - Strobing of lighting

The use of air movement for cooling by moving the air across the skin and causing evaporation has been used for centuries in all sorts of tropical and temperate climates. It is a cost-effective solution to the overheating problem experienced in many building types.

Lush facility manager Megan Hodgkisson approached Airius Oceania P/L to provide a proposal to supply Airius Air Pears as a cooling solution.

The facility, which was a reused building, had roof heights of 6-10 metres high and was over 3,000 sq. metres in size. The building is a typical warehouse type structure, with a portal frame and large roof areas combined with low levels of insulation, as well as limited window openings.

Overheating in summer was of major concern to Lush as employee satisfaction is a major consideration for them.

The warehouse originally contained some localised HVLS fans but Lush Cosmetics weren't happy with them as an overall solution.

TESTIMONIAL

"We were pretty surprised by how good they have been...the biggest success is in shooting down the picking aisles."

- Alex, Digital Fulfillment Manager - *Lush Cosmetics.*

"At 35 Deg. C and humid it was really good."

"We had the fans at speed level 3 in the morning but at 1pm it was too hot so we turned them up to 5 and it was really good - even though it was humid."

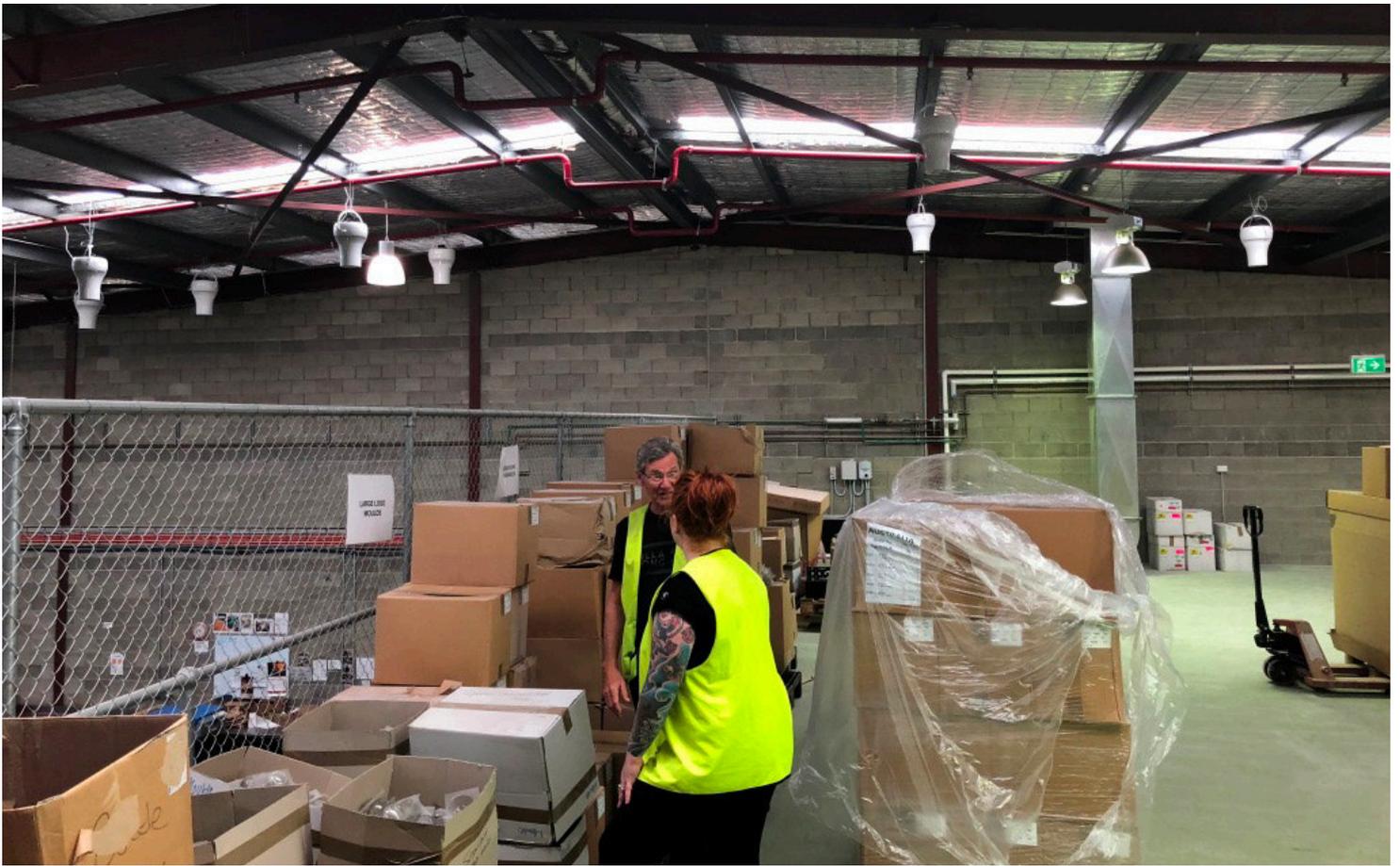
- Heather - *Lush Cosmetics.*



Other similar facilities using Air Pears for cooling include;

- DHL Warehouse (Western Sydney)
- TYCO Warehouse (Western Sydney)
- Bundall Storage (Bundall, QLD)
- Webstar Printers (NSW)
- Vinod Patel (Fiji)
- Sleepmaker (QLD)





Lush initially installed 20 Airius Model 45 PS2 Air Pears in a particular section of the warehouse as a trial across the 2016-17 summer.

The units were so successful, in December 2017, Lush ordered another 91 Model 45 PS2 Airius Air Pears fans and 14 x model 25's for some of the more specific, lower height zones.

Since the Airius Solution was implemented, the outcome was hugely successful with high levels of controllable cooling air movement provided on the floor, in specific working zones and down the aisles (which are usually a very difficult area to achieve air flow with low noise and minimal disruption).

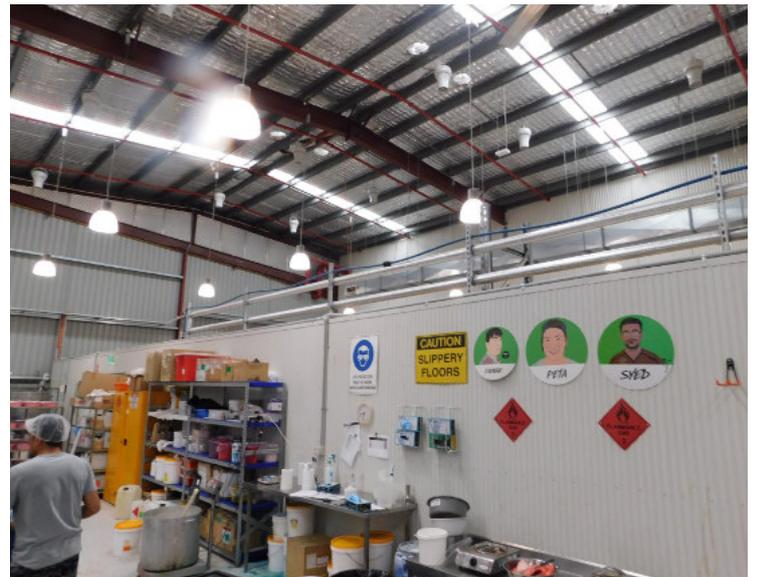
The larger Model 45 PS2 units were installed at a range of 7-10 metres high.

For the aisles, the units were mounted horizontally just above head height and pointed to blow directly down between the product storage racks.

As a bonus, the units are adjustable in any direction to enable the customer to direct the air flow to where it may be required.

At 7-10 metres high these unobtrusive and relatively quiet units provide a large amount of air flow all across the space with full controllability offered in five steps from 0-100%.

The improvement in comfort inside the space was instant and very well received by the employees and management alike. The video interviews Airius has carried out with relevant Lush Cosmetic's staff (www.airiusfans.com/en-au/videos), highlights that even in the warmest Sydney summer days of 35 Deg. C. plus, the air movement offered cooling of the inhabitants and made the space much more comfortable and usable.



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