

CASE STUDY

COOLING SOLUTION TAKES HEAT OFF FACTORY FLOOR

Biddle BV, a world leader in air diffusion technologies, has installed a revolutionary cooling system into a plastics factory in The Netherlands.

This was a demanding assignment as the machinery had to be kept at an optimum temperature to ensure maximum efficiency whilst comfortable temperature conditions were required for the workforce.

Drawing inspiration and technological capabilities from its current range of energy efficient heat solutions, the Research and Development team at Biddle were able to develop a solution through NOZ₂ Cooling.

The benefits were immediate, with satisfied employees reporting a more comfortable working environment.



THE CHALLENGE

Essentra Extrusion, a leading custom profile extrusion company based in Buitenpost in The Netherlands, required a climate solution to improve working conditions for its employees. Factory workers on the shop floor had reported how hot it became, particularly in the summer months. However, in order for the factory machinery to perform at full efficiency, it was essential that the machinery remained at an optimum temperature and did not cool down. Essentra had made a sizeable investment to look at numerous alternative solutions, but without success. The specific challenge was for Biddle to innovate a solution that cooled down employees, but not the machinery.

THE SOLUTION

Biddle's current product range included the NOZ₂ which provides an energy efficient heating and cooling solution specifically for large rooms. With six individually adjustable nozzles, the unit is able to target individual areas with just one electric connection required to utilise the heating and cooling functions. The installation of NOZ₂ Cooling ensured Essentra Extrusion had complete flexibility of where in the factory the units could be placed without restrictions from current infrastructure. It meant only factory areas occupied by workers were subject to the cooling mechanism.

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THE RESULT

Following the installation, Essentra Extrusion experienced the following benefits:

- Rather than cooling down the whole factory, the newly installed system was able to cool targeted, individual work stations. This not only reduced costs – targeted cooling as opposed to cooling the whole factory – but also enabled machinery to remain at the optimum temperature.
- The design of the nozzles meant that the cool air was able to be pushed down to the floor to where employees could physically feel the temperature benefits. This would not have been possible with smaller nozzles.
- Satisfied employees who were able to work in a comfortable environment.
- The company is now able to work towards an energy saving level, which is important to their customer base.



THE CONCLUSION

Tjitze van der Land, Maintenance Engineer at Essentra Extrusion, was delighted with the project.

He said: “After investment on a variety of upgrades to the factory, the decision was made to also improve the current ventilation system. The existing outside ventilation system did not have enough capacity to reduce the internal temperature.

Phase 1, using just water to cool, was completed in June 2017, with Phase 2, bringing in cool air to mix with the water to make it more efficient and cost effective, completed in November 2017.

What was key to the success of this project was the expertise and problem solving delivered by Biddle’s R&D team. It was also extremely important to us that Biddle was able to project manage the two phase installation, which they did in a positive and pro-active manner. One point of contact for not only the sharing of all information, but for all of our Q&As, ensured a seamless project from start to finish.

We are delighted as a company to report that we now have three NO₂ Cooling units installed and that our workforce are satisfied to be working in a more comfortable environment.”