

# 'Snow joke' for natural ventilation manufacturer working with Streme

Based in Buckinghamshire, UK, Monodraught is the global market leader in natural ventilation, lighting and cooling solutions. Their mission is to design and manufacture sustainable products which harness natural resources to improve internal environments.

With a glowing 40 year track record of developing world-class natural ventilation and lighting systems, what problem could Monodraught possibly face to require the services of screen manufacturer Streme?



# A Winter's Tale

Opening the story Monodraught's production manager Paul Darbon said: *"Over the past few cold winters a key population of our customers in schools and universities were reporting that their Windcatcher ventilation systems were letting in moisture during stormy conditions."*

Initially the problem seemed impossible. Describing the weather-proof integrity of the Monodraught ventilation system Paul said: *"Our products are completely rain resistant, featuring either fixed, open louvres or variable position louvres, both designed to channel air flow into the building but keep moisture out."*

Monodraught's R&D team looked into the problem straight away, and quickly concluded, thankfully, that the leaks were not related to rain or condensation getting into the system.

## **The problem was coming, literally, from a different direction.**

Explaining the issue Paul said: *"Rain typically falls in a way that the open louvre design can counteract. Snow, however, has a tendency to drift. During the recent spate of heavy snowfall it appeared that snowflakes were defeating the weather protection of the louvres and were being blown up into the internals of the Windcatcher system."*

## **Spring into action**

Immediately the product design team had to devise a solution, and began to research different ways to prevent 'snow ingress'.

Continuing the narrative, product design engineer James McGowen said: *"We needed a low cost solution and closing off the system was proving too expensive, as well as compromising its natural ventilation capabilities."*

*"Every one of our ventilation units carries anti-bird mesh, so we started to investigate whether some type of mesh could be effective against snow as well."*

## **This is when James came across Window Screens UK, now Streme.**

Commenting on Monodraught's requirements James said: *"We looked at a lot of different mesh manufacturers, but we couldn't have an off the shelf solution."*



*We needed something made to measure, and this turned out to be Streme's speciality."*

*"They were extremely helpful from the moment we first contacted them and recommended a number of different meshes for us to put under test conditions."*

## Summer at the snow dome

Naturally the next obstacle to overcome was where to find the right snowy conditions to simulate a winter's day right in the middle of summer. Working to a tight schedule to identify a solution and manufacture a retrofit before another winter bit hard, James and his team did the only thing they could.

*"We packed up some prototypes, namely ventilator units and the various samples of mesh we wished to test, and took it all down to Hemel Hempstead snow dome."*

*"We spent a few late summer evenings using the snow dome's snow cannons to simulate the types of blizzard conditions that would cause our units the biggest problems."*

Explaining the success of the simulation James said: *"We immediately noticed a huge reduction in the amount of snow coming through with different types of mesh. However, after differential pressure testing we demonstrated that the very small-pitch glass fibre mesh performed the best, with negligible impacts on airflow."*

## Another puzzle to solve

The next challenge was how to fit the new, finer mesh into panel frames to insert behind the louvres of both the circular and square Windcatcher units that Monodraught manufactures.

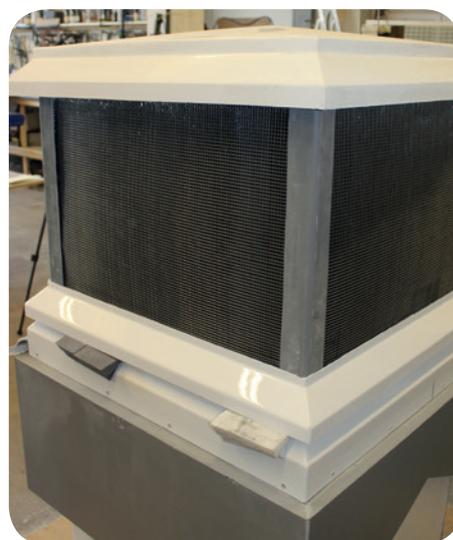
Describing the manufacturing process that had previously been required for the circular anti-bird mesh panels, production manager Paul Darbon said: *"We had been using stainless steel mesh which we were welding into galvanised aluminium frames."*

*"We then had to roll the whole of the flat frame to make it fit the shape and dimensions of the circular unit. It was a very costly process, and it was not going to be appropriate for the finer glass fibre mesh we had selected against the snow."*

At this point product designer James McGowen decided to go back to Streme to see if they might be able to help. He said: *"Streme were superb. It would have been so easy for them to say no to the fairly unorthodox problem we were presenting. But they embraced the challenge."*

Managing Director of Streme Andy Ross said: *"When James came in to enquire about whether we could fit the mesh into frames for their purposes we were delighted – as fitting mesh into frames is really the core of what we do!"*

*"But the circular units presented a new problem. We weren't accustomed to producing curved frames in a cylindrical plane. However, we always like to experiment and enhance our expertise and confidence. This was an opportunity to try a new challenge and I was keen to find a solution."*



Continued overleaf



## Going the extra mile

Streme found a local engineering company who specialised in bending metal. They then tested the curvability of two different thicknesses of aluminium frames before fitting the mesh in each one.

They found that the standard thickness worked better than the thicker size, which also contributed to the ease of installation of a more light-weight product.

*“This was a huge win for us,” said Paul. “It meant we could eliminate a huge cost from our manufacturing process and obtain a neat, lightweight, higher quality product that was much more fit-for-purpose.”*

Commenting on how Streme responded to Monodraught’s requirements James said: *“From the second I walked into their office in Marlow they were excellent. They really went way beyond their remit to help us with our cylindrical systems.”*

## Buckinghamshire-born alliance

For a company concerned with environmental sustainability Monodraught’s top 20 suppliers are all situated within 100 miles of their base in High Wycombe, and Streme is no exception.

In conclusion Paul said: *“It’s great to have found a synergy with a company local to us in Buckinghamshire. We share the same environmentally friendly ethos and are both looking for new opportunities to improve and adapt our products.”*

*“Since day one we’ve had no problems with Streme’s quick lead times and are delighted with their readiness to take on a new challenge. Andy was very enthusiastic in helping us with our requirements. He was happy to work closely with the manufacturers and came up with a cost-effective product that exactly suited our specifications, and surpassed our expectations in terms of installation ease.”*

**“Monodraught have a good association with Streme, who now supply us with a major product component that helps keep us ahead of our competitors. I cannot fault their service.”**

### Paul Darbon Production Manager | Monodraught

Currently under the helm of Managing Director Andrew McCubbin, Monodraught was founded in 1975 by Professor Terry Payne and is now owned by Danish conglomerate VKR, who also own Velux.

Call us on **01628 481 919** to discuss your project.

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