



Protomold® Rapid Prototyping – Quietly Does It

Noise Limit ApS

Does the constant whirring sound generated by your PC's cooling fan drive you mad when you're trying to concentrate? Maybe it doesn't bother you but it aggravates your co-workers or, if you work at home, your family?

For Copenhagen based Henrik Olsen the fan on his high performance home-office computer was so noisy it could be heard around the house, justifiably soliciting numerous and regular complaints from Mrs Olsen. The problem sparked a brainwave that eventually led Henrik to form Noise Limit ApS, a developer of noiseless cooling technology for high-end CPU's, based on the outskirts of the Danish capital.

That was two and a half years ago. Today, Noise Limit has grown into a seven-employee business that is about to sell its first products to a growing list of interested parties.

The company's innovation is called SilentFlux, a system that eliminates the requirement for fast running fans to blast air on to aluminium heatsinks. SilentFlux solutions are hermetically closed, self-circulating liquid circuits with no moving parts that can dissipate more heat using less airflow. Because airflow is the main source of noise in most PCs, this reduction decreases noise levels considerably.

The development process over the past couple of years has been meticulously planned – and the need for rapid prototypes at various stages has been paramount in helping Noise Limit demonstrate its ideas to potential customers across the globe. Although the SilentFlux cooler is manufactured from aluminium, various plastic parts are also required to

of these proportions are not fast enough in the IT industry. Then I came across the website of Protomold, where I discovered I could have my parts in just five days!”

Sceptical but curious, Lange decided to see if the Telford-based rapid prototyping specialist could rise to the challenge and submitted a design via ‘Part Tester’ on Protomold’s website.

in the production material. The parts are being assembled here today and will be shipped to our potential customer in Taiwan tomorrow – that is fast! Using a service such as Protomold also offers me a back-up should production tools from Asia get delayed or broken. If I have a customer waiting I know that Protomold has a tool ready-to-go should it be required.”

“Using a service such as Protomold also offers me a back-up should production tools from Asia get delayed or broken,”

The potential for SilentFlux is enormous. The worldwide PC market alone is 300 million units a year, without considering other applications such as gaming stations and media centres. Noise Limit has already struck a manufacturing deal with a leading German company that employs 17,000 staff worldwide.

mount the product on to the motherboard.

“In the development phase we needed to produce samples equivalent to the production design,” explains Noise Limit’s CEO Torben Lange.

“Machining plastic parts produces different mechanical properties – we needed moulded components manufactured from the actual material. Initially I searched the internet for companies capable of meeting our requirements but most were quoting six, seven or eight week lead-times. Unfortunately timescales

“Part Tester is a brilliant concept,” says Lange. “Within an hour of submitting our design we had feedback from Protomold on how we could optimise the design to suit mass production moulding.”

So impressed was Lange that Noise Limit has used Protomold’s services many times during the development of SilentFlux.

“Only last week I discussed a tool with Protomold,” he says. “The tool was completed over the weekend and yesterday I received 50-off components moulded

“Our future looks bright,” states Lange, “but we couldn’t have got here without the help of Protomold. Their advice and input has been invaluable and they have more than met my expectations. As a company we will doubtless continue to use Protomold’s services as we evolve further.”