



Daikin Applied

Use Case – Drain Pans

Customer Profile

Established in 1924, Daikin is a world leading provider of air conditioning and heating systems for residential, commercial and industrial properties. With over 100 production facilities worldwide, Daikin employs leading technologies like additive manufacturing to create solutions that improve air comfort and quality.

Challenge

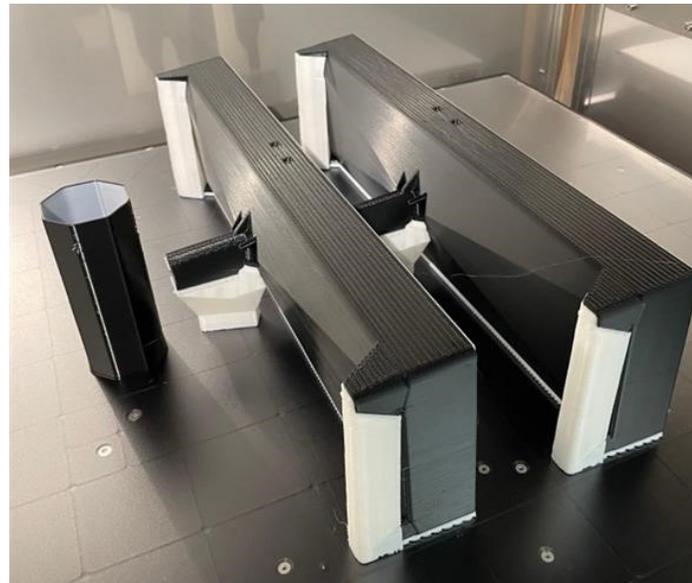
A common feature of HVAC systems is the drain pan that collects and redirects moisture removed from the air. New systems require multiple iterations of prototype drain pans to validate fit and function before locking in the final design. Outsourced 3D printed prototypes cost \$485; the quote for one injection molded prototype was \$22,200 with a one-month lead time.

Solution

Instead of outsourcing, Daikin used a large-format F770™ FDM® 3D printer to prototype the drain pans in-house using ABS thermoplastic. This allowed engineers to iterate and complete the design much faster before sending the final configuration to subcontractors for injection molded production. A benefit of the F770 is its large build chamber which enables printing several large prototype drain pan designs in a single print operation.

Impact

Drain pans printed in-house on the F770 were produced for an average cost of \$83, an 83% savings over outsourced 3D printed prototypes and a 99% cost savings relative to molded prototypes. Lead time savings ranged from several weeks for 3D printed prototypes to several months for injection molded units. 3D printing the final geometry in-house also allowed for more timely hands-on communication with potential suppliers of final production units.



Lead Time Savings



Several Weeks to 1 Month*

Prototype Material Cost Savings



83% - 99%

* Dependent on chosen method of outsourced prototypes: 3D printed or injection molded