

# Casting Cuts Machining Time & Saves Money



## A CASE STUDY

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## The Customer

This component is for **blood analyzing equipment**, used in the US armed forces medical division.

## The Challenge

Originally, the customer was machining this part out of a solid piece of billet. As you can imagine – that took a lot of machine time!

The customer needed a **more efficient** manufacturing method that still provided **highly accurate** dimensions for final assembly.

## The Solution

The customer's main benefit of switching to permanent mold was that permanent mold casting creates an accurate, **near-net shape** of the product. This made permanent mold casting a more efficient manufacturing method than machining from billet.

By first casting the product, we created a part that closely resembled the final product. Then, we added a quick CNC machining operation to ensure **tight tolerances** were met. Instead of loading a solid block of aluminum into the CNC machine, we loaded a casting that was already the correct shape. Therefore, the machining operation was **quicker**.

**Secondary CNC machining** guaranteed the new casting would fit into the assembled blood equipment exactly the same as their current product.

## The Outcome

The manufacturing process for this part became more **efficient**. The customer saw **ROI on their tooling costs** in record time by limiting CNC machining time.

The new casting replaced the machined product and assembled onto their medical equipment without a problem.

Unlike other manufacturing methods, permanent mold casting provided a dense, **low-porosity** component. Why's this important in medical equipment? Low porosity means less likelihood of cleaners, blood samples, or other liquids from seeping into the equipment, impacting sanitation.

*Aluminum castings with low porosity and fine grain structure are ideal for the medical industry.*

*At Batesville Products, we have experience manufacturing cart bases, heat sinks, pump enclosures, and structural components for MRI machines and scanners.*