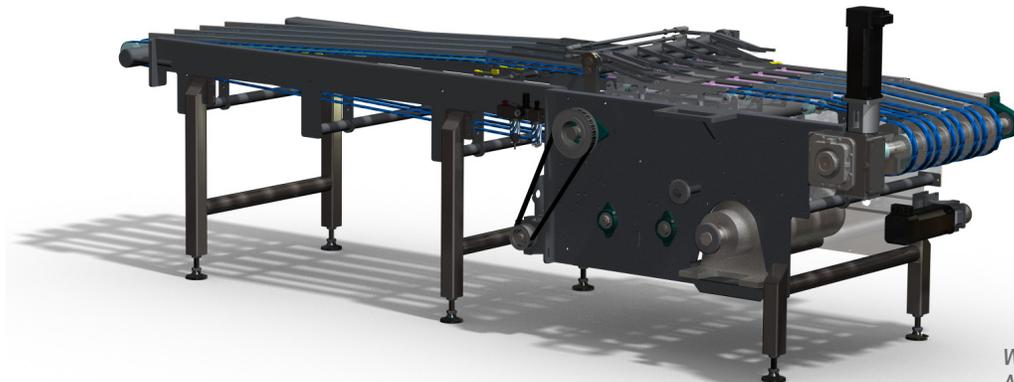


# ANDERSON DAHLEN INC.

## Spurring Stainless-Steel Equipment Fabrication with SolidWorks Enterprise PDM



*With SolidWorks Enterprise PDM software, Anderson Dahlen has saved time, reduced errors, and increased throughput in the development of its stainless-steel processing equipment.*

Equipment that processes food, beverages, dairy products, and pharmaceuticals is highly specialized. The tanks, conveyors, mixers, dispensers, and feeders comprising these systems must inherently be corrosion-resistant and sanitary, which requires the use of stainless steel and specialty alloys. When companies need this unique equipment, they often turn to Anderson Dahlen Inc., a leading provider of high-quality, custom metal fabrication services for more than 60 years.

Like many metal fabricators, Anderson Dahlen initially used 2D AutoCAD® tools for development. In 1999, however, the company upgraded to the SolidWorks® 3D design system so it could create designs—ranging from sheet-metal parts and welded joints, to pressure vessels and complex assemblies—more efficiently. In 2007, management decided to implement a product data management (PDM) system to achieve productivity gains on the manufacturing side similar to those experienced in design, according to CEO Thomas Knoll.

“We were using a server-based system of folders, which slowed down production,” says CAD Systems Manager Richard Trnka. “The old system lacked security and also had inadequate search capabilities, which limited our ability to leverage standard designs. For example, we use a lot of common parts, such as end plates and bearing mounts. Without a PDM system, we had instances when a designer would redesign an already existing part or create a part that didn’t function as well as one that someone else had already designed.

“With a PDM system, we hoped to minimize the potential for errors and automate workflows,” Trnka adds. “The ultimate goal was to address the causes of production delays—namely design errors, which require additional engineering, time, and rework—so we could increase throughput and save time and money in manufacturing.”

Anderson Dahlen evaluated the Autodesk Vault®, DBWorks®, and SolidWorks Enterprise PDM packages before choosing SolidWorks Enterprise PDM software, which the company selected because of its user-friendliness, utilization of an SQL database, full integration with SolidWorks CAD software, and easy configuration.

### Challenge:

Achieve productivity gains in the fabrication of stainless-steel and specialty alloy equipment and systems for the food, beverage, dairy, and pharmaceutical industries, as well as other specialty stainless markets.

### Solution:

Implement the SolidWorks Enterprise PDM system to cut time and costs from production processes.

### Results:

- Shortened design time by 10 to 15 percent
- Cut rework by 5 to 10 percent
- Reduced errors by 10 percent
- Increased throughput by 10 to 12 percent

"We wanted something that we could configure ourselves. If we needed to make a change, we could do so without having to hire a consultant," Trnka stresses. "SolidWorks Enterprise PDM has a graphical administrative tool and an open applications programming interface (API), which makes it easy to customize and adapt to our particular needs."

### Faster sheet-metal fabrication

Following a phased PDM implementation that involved migrating 70,000 existing design files, Anderson Dahlen realized immediate benefits in the development of its systems, particularly in the design and fabrication of sheet-metal components and assemblies.

"Almost everything we do involves sheet metal," Trnka points out. "It's a lot quicker and more efficient to develop complex sheet-metal flats when you're always working with the formed component in SolidWorks. With PDM, we've connected the design with our laser-cutting system, which automates the process of producing flat patterns and creating code used to cut the parts."

"We prefer to reuse designs whenever possible to reduce our design times and costs. With SolidWorks Enterprise PDM's search capability, it's easy to find an existing design, using an attribute like material, size, or function," Trnka continues. "On average, a part search takes only about 1 to 2 seconds. Before we implemented PDM, we determined that our designers were spending an average of 40 minutes per day searching for parts. PDM capabilities—like search tools and automated workflows—help us reduce design time by 10 to 15 percent."

### Fewer errors, less rework

With the automated workflows supported by SolidWorks Enterprise PDM, Anderson Dahlen established important quality checks and controls, which contributed to the company's ISO 9000 certification in manufacturing. Since implementing PDM, the company has reduced all types of errors—including machine, fabrication, CAD, and human errors—by 10 percent, resulting in a subsequent 5 to 10 percent reduction in rework.

"SolidWorks Enterprise PDM plays a key role in our quality control system and helps us to continually develop ongoing improvements because the system manages all of our development data," Project Manager Jeff Liedman says. "Not only does this enhance product quality—such as having the proper file information embedded on all assemblies and parts—but it also ensures that required inspections and approvals take place." SolidWorks Enterprise PDM helps Anderson Dahlen manage other quality control systems required by ISO 9000 and insures that materials, inspections, non-conforming materials and documentation are accurate, filed, and communicated throughout the organization.

### Improved production performance

The positive impacts of the SolidWorks Enterprise PDM implementation—faster development, automated workflows, and improved quality—have allowed Anderson Dahlen to increase fabrication throughput by 10 to 12 percent, providing the production-side performance gains that the company sought.

"With PDM, we are able to do more with our existing resources," Liedman points out. "If we didn't have PDM, I don't think we'd be able to support our current throughput while maintaining quality control. PDM lets us produce systems quickly while making sure that they're fabricated correctly."

*"WE PREFER TO REUSE DESIGNS WHENEVER POSSIBLE TO REDUCE OUR DESIGN TIMES AND COSTS. WITH [SOLIDWORKS] ENTERPRISE PDM'S SEARCH CAPABILITY, IT'S EASY TO FIND AN EXISTING DESIGN, USING AN ATTRIBUTE LIKE MATERIAL, SIZE, OR FUNCTION."*

Richard Trnka  
CAD Systems Manager



SolidWorks Enterprise PDM's powerful search capabilities facilitate design reuse and save Anderson Dahlen's designers an average of 40 minutes per day.



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