

Industrial machinery

## B&P Littleford

Industrial mixing and separation machine maker uses Solid Edge to cut design time by 50 percent

### Product

Solid Edge

### Business challenges

Combine two engineering teams into one

Maintain on-time product design and delivery

Standardize on a single design/simulation software

### Keys to success

Reevaluate two CAD options side-by-side

Standardize on a single platform

Discover success of synchronous technology for design

Apply SOLIDWORKS to Solid Edge bulk migration tool

### Results

Cut design time in half

Leveraged skills of SOLIDWORKS top-gun designer

Discovered synchronous technology was useful on 80 percent of design projects

Implemented best design/simulation technology for the merged companies

### Siemens Digital Industries Software helps B&P Littleford standardize on one design and simulation tool

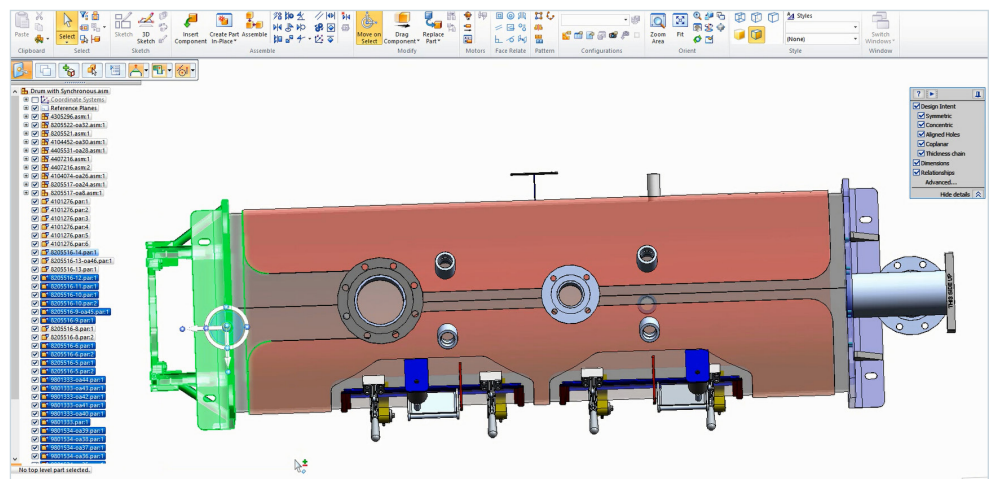
#### Delivering designs on time

B&P Littleford LLC designs and custom builds a wide spectrum of mixing, drying, extruding, compounding, reacting and centrifugal separation equipment for large- and small-scale manufacturing applications and associated process solutions for chemical markets.

Mechanical engineers make up a big part of the company, and most departments

are run by engineers. They work on components that range in size from something that could sit on a kitchen table to items that could be the size of a large conference room or a small house, ranging from about 20- to 25-feet tall and 50- to 60-feet long, and weighing up to 90 tons.

The biggest challenge for B&P Littleford was delivering designs on time. It has projects for different types of machinery so design drawings must be released in a clean, concise manner without having to make excessive engineering change orders (ECOs). They need to avoid correcting designs because they went too fast and made mistakes while being innovative.

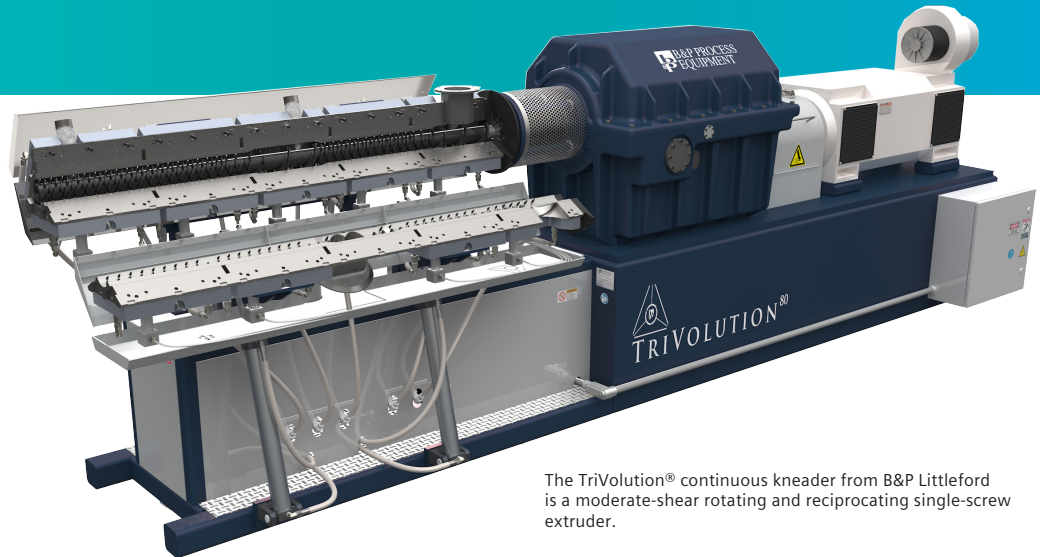


B&P Littleford makes a last-minute design change on this plow mixer for a customer needing more floor space. Brian Fritz, engineering supervisor at B&P Littleford, notes that with the synchronous technology capability of Solid Edge, the task was fast and easy.

"I would say that when you've been dealing with a particular software for years and years – in my case, SOLIDWORKS – you can develop an almost religious devotion to it, but if you really say to yourself, 'be truthful, be objective,' maybe you'll be surprised with Solid Edge".

Scott Samborn  
Senior Mechanical Design  
Engineer  
B&P Littleford LLC

This TriVolution mixing machine that was designed with Solid Edge reciprocates a process screw three times for every one revolution. It has a high standard of performance in shear sensitive mixing applications while achieving the highest energy efficiency.



The TriVolution® continuous kneader from B&P Littleford is a moderate-shear rotating and reciprocating single-screw extruder.

That's always the challenge: speeding up the process and becoming more efficient while still maintaining some creativity and innovation.

B&P Littleford had been using SOLIDWORKS® software, but decided to consider switching to Siemens Digital Industries Software's Solid Edge® software.

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'be truthful, be objective,' maybe you'll be surprised with Solid Edge," says Scott Samborn, senior mechanical design engineer.

"Solid Edge with synchronous technology turned out to be wonderful. It caused a complete shift in my way of thinking."

#### Providing more flexibility

B&P Littleford uses Solid Edge to bring in its SOLIDWORKS data. The company hopes to continue to be able to seamlessly use legacy data developed from SOLIDWORKS and manipulate it quickly and efficiently for new projects.

"Solid Edge with synchronous technology gives us more flexibility, but we can go back to ordered if we want, and we can also switch over to synchronous and use it to help speed things up," says Brian Fritz, engineering supervisor at B&P Littleford. "We're seeing there might be some other aspects that we can use synchronous for, such as a sales or marketing tool to come up with designs quickly in order to generate proposals for customers.

"We can bring in and manipulate our SOLIDWORKS files or any other CAD system

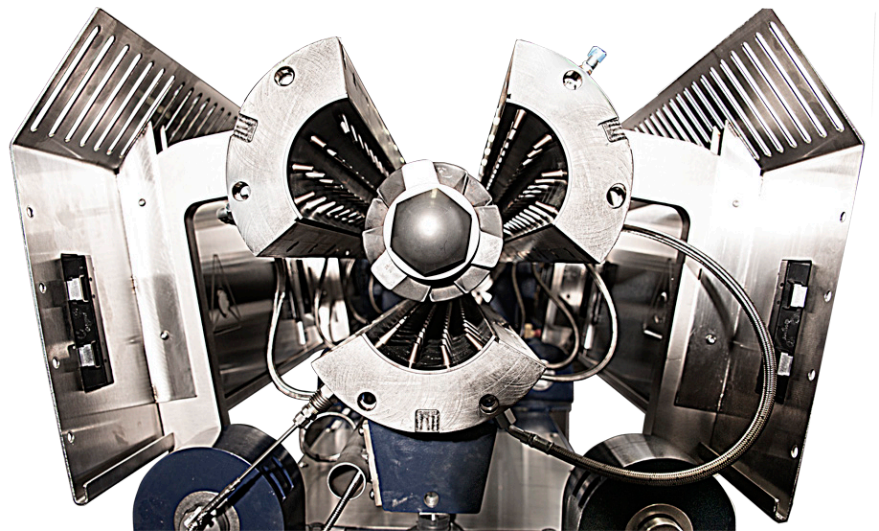
# *“Synchronous technology caused a complete shift in my way of thinking.”*

Scott Samborn  
Senior Mechanical Design Engineer  
B&P Littleford LLC

and recognize some of the features within it.” Fritz explains, “We can turn a ‘dumb solid’ into a more intelligent model that can be manipulated and easily adjusted and modified to the new design that we need for our machines.”

B&P Littleford has found components that normally would take a couple of hours to remodel from scratch can now be done in five, 10 or 15 minutes with Solid Edge. The company also discovered when to leverage synchronous and when to use ordered. At first the engineers weren’t sure how synchronous could help them with their complicated geometry. However, they soon realized that for 80 percent of the components, synchronous can cut the development time in half or more.

Additionally, B&P Littleford found there were two good ways to migrate data. The engineers can take a SOLIDWORKS file, change the file type, open up the components and it will automatically translate that data. Or, they can migrate data in a big batch rather than opening documents file by file. They can use the Solid Edge migration tool to go from Pro/E® software, AutoCAD® software or SOLIDWORKS, and simply select a batch of files that they want to migrate all at once. The tool facilitates batch converting and migrating solid models or drawings from one system over to Solid Edge.



Pictured is the discharge area of a mixing machine that was designed with Solid Edge.

“Using Solid Edge gives us the ability to migrate our models as well as our drawings and maintain associativity between the models and the drawings,” says Fritz. “It is able to go through and intelligently recognize the dimensions, and that they belong to certain edges and features within the model and can reattach themselves and re-establish an associativity between the drawings and the models. That will give us something that will allow us to migrate much of our data from other CAD systems.”

**“The more I got to use Solid Edge the more I felt like I don’t need to be worried about it slowing me down. I realized it was actually going to speed me up. So I’m not worried about losing my top-gun status as a SOLIDWORKS user because I feel like I’ll be right where I need to be with the new software.”**

Scott Samborn  
Senior Mechanical Design Engineer  
B&P Littleford LLC



## Solutions/Services

Solid Edge  
[siemens.com/solidedge](https://siemens.com/solidedge)

## Customer's primary business

B&P Littleford LLC designs and custom builds a wide spectrum of mixing, drying, extruding, compounding, reacting and centrifugal separation equipment for large- and small-scale manufacturing applications for the chemical markets. The company develops and manufactures compounding and mixing systems, chemical extraction and separation equipment and associated process solutions tailored to client applications worldwide. [www.bplittleford.com](http://www.bplittleford.com)

## Customer location

Saginaw, Michigan  
United States

## Solution Provider Partner

CAM Logic  
[www.camlogic.com](http://www.camlogic.com)

Fritz notes, "Using synchronous technology will allow us to quickly make faster and more frequent design iterations."

"It was quite a revelation for me to discover that switching to Solid Edge was really going to be advantageous to our company," says Samborn.

## Solid Edge Simulation

"We really like the ability to perform a full analysis on our components and equipment as needed," says Fritz. "Sometimes we have the requirement or need to run a simulation on a gear box housing to ensure that we've got the proper gussets and structure; that it will handle the loads and forces and torques that it's going to see. Sometimes we're running finite element analyses on our centrifuges that are running at a few thousand RPMs, and we want to make sure those speeds and forces aren't going to cause a shaft deflection that could cause some interference."



An overhead view of a TriVolution mixing machine that was designed with Solid Edge.

*"Using synchronous technology will allow us to make faster and more frequent design iterations."*

Brian Fritz  
Engineering Supervisor  
B&P Littleford LLC

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