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transfer

CONVEYING NEWS BUILDING RELATIONSHIPS DEFINING 

KETCHUP CATCH UP

OPEN UP THE BOTTLENECK IN THE BATCH PROCESSING SYSTEM, AND CATCH UP WITH FASTER PACKAGING RATES.

When Mullins Food Products, a private label ketchup manufacturer in Chicago, contacted CSI, this was the challenge: Mullins Food already had faster packaging equipment and was in the process of installing a faster new homogenizer, but they needed to speed up their batching process to increase the delivery from 45 to 65 gpm. The specific goal as presented to CSI was to find a better method of standardizing their tomato paste to reduce time and waste.

Mullins Food's existing paste system was time-consuming and difficult. After a tilt platform tipped the totes of tomato paste to an angle, an operator used a short wand attached with a hose to a double diaphragm pump to suck out the paste. The operator then sprayed water through the wand to try to clean the paste out of the wrinkles in the bag.

When Mullins Foods contacted CSI, they had an idea for a dumper and mixer; however, there was no design for how to integrate it into their existing system.

CSI Listened

CSI's mission is to provide value-added process components and systems for sanitary and high purity processes. We strive to understand the needs of our customers and work as a team to fill

those needs. When Mullins Food Products contacted us with their particular scenario, listening to their requests and requirements was our first step.

As we started talking with them, we asked many questions and listened to their answers so we could fully understand and help them identify their real needs.

CSI's mission is to provide value-added process components and systems for sanitary and high purity processes.

It turned out that a dump and blend system was the best solution, and it needed to be sized to meet their room delivery rate. The system also had to be integrated with the rest of the existing batching system and needed to be easy to clean.

Next, CSI proceeded by studying their batching capacities, times and rates. We then looked at various flow rate and timing scenarios. This study allowed us to select equipment that would stay ahead of the new room delivery rate of 65 gpm. The study showed that 4" tube and large pumps would be required: a 200 gpm

rate out of the blender and 150 gpm out of a surge tank.

In addition to standardizing the paste to a desired % Brix (solids content), CSI also determined that the blender would be an ideal place to meter in the vinegar. The operator would then continue to dump the salt manually while mixing and recirculating.

While Mullins Food wanted to keep their existing kettles, we identified this as a potential future project in order to really catch up to their packaging capacity.

The CSI Solution

The solution CSI provided for Mullins Food was a hydraulic lift and rotate dumper for the totes, including a bag retention device. A single bowl ribbon blender was selected with enough capacity to accept a complete 2900 lb tote of paste with the water, vinegar and salt for their recipes.

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Paste Dumping	
Paste bin size (nominal)	2900 lbs
Bin brix (nominal)	26%
Specific gravity	1.12
Water addition total (nominal)	237 gal
Total in blender (nominal)	547 gal
Dump time	2 min
Blend time	3 min
Pump out rate	150 gpm
Pump out time	3.65 min
Dump/blend cycle time	8.65 min
Net rate	63.3 gpm

Standardizing	
Fill time per bin	3.65 min
Recirc and adjust time	2 min
Pump out rate	150 gpm
Pump out time (1 bin)	3.65 min
Complete cycle time	9.30 min
Net rate	58.9 gpm

Batching Operation	
Kettle size	400 gal
Standardized paste in recipe	35%
Pump rate fr/standardized tank	150 gpm
Paste fill time per kettle	0.9 min
Other addition and mix time	3 min
Check and adjust time	3 min
Safety time - batch waiting	3 min
Ready to dump time	9.9 min
Pump out rate (homo rate)	65 gpm
Pump out time	6.2 min
No. of kettles required	3 kettles

The Alfa Laval SRU positive displacement pump was chosen for its reliability, ease of maintenance and CIP cleanable design.

In this particular design, an inline refractometer is used in the recirculation line on the blender. As the paste is blended and recirculated, a constant signal indicating % Brix is given allowing the operator to monitor this continuously and control against the recipe standard.

In order to insure accurate and consistent batches, paste delivery to the kettles is automatically controlled with a flow meter and a variable speed drive for the pump. Based on its reliability, accuracy and cost, the Anderson Instruments IZML magnetic flow meter was chosen.

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Since there was no drawing of the existing system, CSI developed a P&ID of the process to show how the new system would integrate to their existing system and also show CIP, scope areas and device numbers. In addition, a sequence of operation was written to develop the control system, and also allow the customer to review the control scheme before design began.

Since there is no central CIP system in the plant, batch style CIP was selected, powered by an Alfa Laval SolidC centrifugal pump. A CSI product recovery system (pig) was installed on the delivery line to the kettles to further reduce the waste and optimize CIP cleaning.

The Allen Bradley FlexLogix processor was provided to control the operation of the tomato paste blending and standardization system based on operator interaction via a Panelview Plus 1000 operator interface. A remote access modem/Ethernet switch was provided to support the Ethernet network as well as allow for remote support via a phone line connection.

CSI delivered this turn-key project during a ten day period at the facility. An isolation barrier allowed the CSI crew to do most of the installation without interfering with the existing day-to-day operations. The dumper, blender and new platform were all set and anchored into place; the water and vinegar meters were tied in; and, the new pumps were set. After the piping was completed, all control inputs and outputs were verified. The flow meters were then tested and the proper rotation was checked on each pump.

After successful water runs, the first tote of paste was dumped into the blender. Based on Mullin Food's recipe, the salt, water and vinegar were added. After lab checks, the paste was pumped through the surge tank to the kettle system for final minor ingredient additions. Then, the very first batch using the new system was then sent to packaging.

CSI continued to train the operators and answer questions as the plant took full control of the new process equipment.



CSI tomato paste dump and blend system, complete with work platform and recipe control system

In full operation, the new system proved to be a success. Not only did the new dump/blend system accomplish the desired result of 44% increased delivery rate to the packaging line and reducing wasted paste, the meter and VFD controlled delivery pump gave a more consistent delivery of paste to the kettles which reduced batch variations.

If you need to catch up and even pull ahead with greater efficiency, contact Central States Industrial at **800.654.5635**. We'll find the right solution to your problem.

About the Author

Steve Cook joined CSI's sales team in 1990 and now holds the position of Food Engineering Manager.

Steve has a Bachelor's of Science in mechanical engineering from the University of Missouri-Rolla. He specializes in designing solutions for food, dairy and beverage processing as well as CIP cleaning. With over 17 years of industry experience, Steve provides practical solutions to solve even the most difficult processing challenges.

If you have a food, dairy or beverage challenge, give Steve a call at **800.654.5635** ext. 112. He would love to have the opportunity to solve your processing problems.

Dear Friends,

Thirty years of Central States Industrial. I remember the first year of CSI; and, I know now that I didn't perceive the risk as-



sociated with starting a business with a mortgage and three kids in high school. I remember brushing welds for my dad as he welded together sheets of steel on the floor of a large cooler in a dairy plant. It wasn't stainless piping, but it was a job.

Central States Industrial Equipment and Service, Inc. was started on July 1, 1977—in the home of Jim and Shirley Cook—as a Missouri corporation in Jefferson City. In 1984 Jim and Shirley made the decision to move CSI, along with the four employees, to Springfield.

Now, thirty years later, CSI has more than 95 employees including five in California and one in Washington. What a transformation!

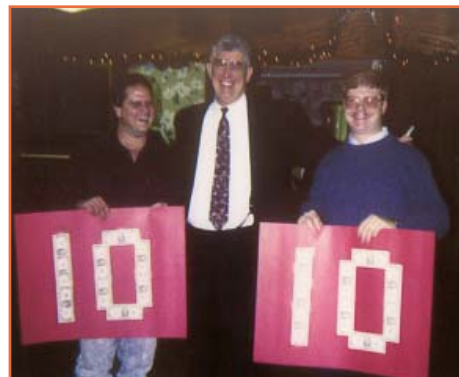
I remember when we typed the invoices, hand wrote the checks, and kept inventory on cards. I remember the serious discussion about whether or not we should purchase our first fax machine.

Today, the people of CSI continually bless me as they work together and

perform. One of the most exciting aspects of this success is the confidence that customers have in us. I believe that CSI will continue to grow and prosper as long as its people care about each other and serve customers with relentless attention to quality and detail. I am proud to say I work at CSI.

Finally, I want to thank our employees and their families for supporting this entity we call Central States Industrial. In this edition of our newsletter, you will read several stories about the history, growth and development of the company. If you are reading this, you are probably a part of who we are and where we are going. We have an exciting future. I look forward to the next 30 years.

Sincerely,
J. Mark Cook
President



Kelly Enloe and Steve Bates celebrate their first ten years at CSI, 1992

Who else could help CSI celebrate its thirtieth birthday than the employees who have been with CSI for the majority of those 30 years?

Steve Cook
Food Engineering
Manager

Hire date 1990

"I spent the summer of 1977 moving laws and didn't pay much attention to the stress, difficulties and excitement Mom and Dad experienced as they started CSI. It wasn't until much later, with kids of my own, that I began to appreciate the risks they took and the sacrifices they made. Little did I know that this was just the beginning and Dad would pour his energy, skills and heart into this company for the next 25 years and provide many opportunities for those who chose to join the team."

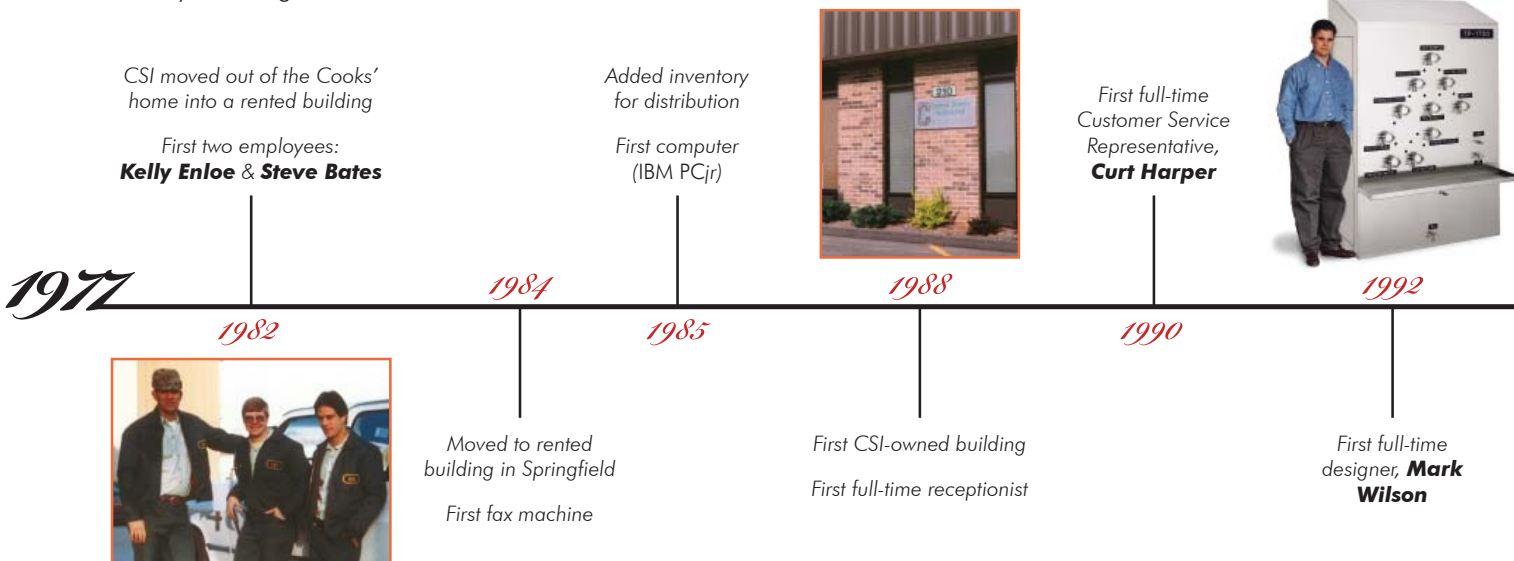
Beth Ipock
Customer & Employee
Relations Manager

Hire date 1990

"When my parents founded CSI, I had just finished my sophomore year in high school; so, I helped out with the cleri-



Jim and Shirley with their children



TES 30 YEARS

cal work. It was through CSI that Mom and Dad taught me how to balance a checkbook each month when the statement arrived. Dad purchased a used typewriter for typing quotations, purchase orders, invoices, etc. Typing an original with two carbon copies got complicated! I'm sure I used a lot of Liquid Paper."



Children: Mark, Steve and Beth

a paper towel assign it a job number and hand it over to me to be machined. The way we did it then just wouldn't fly today. Jim was never one to ask a man to do something he wasn't willing to do himself. Kelly, Steve and I worked endless hours in the field, but Jim was usually right there working beside us."

Kent Fuzell Maintenance Supervisor

Hire date 1987

"I remember the days when Jim would sketch out a part on



Kent and his wife Connie, Christmas 2005

Steve Bates Sales Estimator

Hire date 1982

"When asked about the biggest changes I've seen at CSI over the years, I realized the biggest changes were probably within me. I came to CSI at age 26 and was headed down the wrong road. Over the years, the examples of Jim and Shirley Cook and Kelly Enloe changed the course of my life forever. They showed, through example, the importance of God in their lives as well as integrity, honesty, respect, and family values. My eternity has been changed as a result."



Steve welding CSI's first valve manifold, 1988

Kelly Enloe Welding Supervisor

Hire date 1982

"After getting laid off, I called Jim Cook to see if he needed and help. It has been a privilege working for CSI and to be a part of its growth. I have seen CSI go from four people to six to eight, and now to nearly 100. Wow, what a change!"



Mike Cochara, Finishing Supervisor, presents award to Kelly for 25 years of service, 2007

Jim was a trailblazer when he started CSI. The future was uncharted. Blindly making calls to potential customers, he would present himself as the right man for the job and, as he would say, "Bid fair and square, do what you say and finish what you start." Using that philosophy, Jim was able to build his company. Jim and his crew would go anywhere. "All we needed was the invite," said Jim. He says his favorite memories are of "Just me, my truck and my crew."

Jim says he is often asked, "Did you ever think it would grow this big?" His answer is always the same: "Never dreamed it!"

Integrity. Honesty. Respect. Family Values. The values Steve Bates recognized 25 years ago are still as much a part of the CSI team today as they were at the beginning. Those characteristics help make CSI the success it is today, and we are proud to have employees who have chosen to remain with us for years, dedicating their life work to the mission of CSI.

"The employees of CSI are all on the same team and the management team works toward the good of everyone," said Bates. "I am as honored and proud to be a CSI employee as I was in the days of Kelly, Jim and Shirley."

West Region Sales Team: Curt Harper, Amy Fedorczyk, Charlie Jockers, Tina Phillips, John Kehrberg, Brenda Kehrberg, Gabe Calderon



First full-time finisher, **Mike Cochara**
Added e-mail capability



1997

Jim Cook retired

First patent: Transfer Panel Collared Spool, **Mark Wilson** and **Bryan Billmyer**



2001

2006

Added 8,000 sq ft to facility
Opened CA warehouse and hired first Western Region Sales Representative

2007



Moved to current facility, 2700 Partnership Blvd

1999

PIPETITE PRODUCTS

The newest innovation for solving your wall and ceiling penetration problems is now available from CSI. The Pipetite ReBoot® is specifically designed to be installed around your existing tube and pipe penetrations to give you a clean, trouble-free seal on virtually any wall or ceiling surface.

Now you can replace those unsightly, troublesome wall plates with a product that not only works better and looks better, but also saves you costly maintenance time. Its clever "split-design" allows ReBoot to be wrapped easily around the piping, then firmly sealed in place by a heavy-duty stainless steel clip. Installation is fast and easy and requires no special tools.



Pipetite ReBoot's base incorporates self-sealing ridges that provide a flexible, positive seal, eliminating the need to "pack" the product off the wall. Therefore, silicone is not required for installation. ReBoot can be adapted to fit most existing pipe or tube diameters and allows the pipe to move significantly without causing damage or breaking the seal between the wall and the pipe.

Here are just a few of the many features of this revolutionary new product:

- Available in three sizes to fit piping up to 7" diameter
- Constructed of hygienic white silicone and 316 stainless steel
- Split design installs easily around existing piping
- Easily trimmed to size in the field
- Totally self-sealing — no sealant required
- Boot is flexible to accommodate movement
- -40 to 500° F temperature range
- Predrilled mounting base makes installation quick and easy
- Materials compatible with cleaning solutions



CSI's two locations in Springfield, Missouri and Fowler, California are well stocked with all sizes of ReBoot as well as other Pipetite products, so prompt shipping is never a problem.

Whether starting a new plant or as an addition to an existing plant, Pipetite has the products to save you time and money. For more information about the complete line of Pipetite products, please call CSI today at **800.654.5635** or visit www.pipetite.us.



Visit us online

For hands-on help researching CSI's products and services, just click to the tools on CSI's website.

www.csidesigns.com

Meet Charlie Jockers



Learn a little about **Charlie Jockers**, and it's easy to see how he will be an asset to CSI and our customers.

"I have been a sales engineer at the plant level where I called on all types of food processing plants as well as the pharmaceutical industry," Charlie said. "My responsibilities included taking care of supply items as well as initiating engineering and drawing projects. I also have experience as a manufacturer's representative for a sanitary hose and fittings company where my responsibilities included building and maintaining a distribution base throughout North America."

Central States is pleased to have Charlie as a sales representative where he will work with current resellers to enhance relationships as well as identify new opportunities with existing CSI customers.

"My intent is to form partnerships with our customers where CSI provides products that will help enhance and round out their product line. Combining my experience in sanitary equipment, the existing relationships I have with some current accounts and my familiarity with the sanitary market as a whole, I hope to create and maintain exciting partnerships that benefit both CSI and our customers," he said.

Within his new role and duties, Charlie will focus on the CSI product line with a special emphasis on Pipetite. If you have technical questions, want to learn about our products or need help resolving any problems, give Charlie a call at **360.593.4101**. You'll be glad you did.



Central States Industrial

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GABE CALDERON A PERFECT FIT



Growing up in his family's tank manufacturing business is helping **Gabe Calderon** feel right at home at Central States Industrial.

As a California Sales Representative, Gabe is putting his history and experience with his own family's tank manufacturing business to use as he works to develop CSI's West Coast division.

"My job duties are to grow sales in California and establish new customers," Gabe said. "Having worked

both as an inside sales manager and outside sales manager, I have been able to get both perspectives. I put myself in the shoes of the customer to provide the service needed."

"I can offer customers our complete product line, from Alfa Laval to our own CSI product line," he said. "We are fortunate to have our own group of products that only we sell, and because of our broad product line we can meet the needs of the food, dairy, cosmetic, juice, and pharmaceutical industries."

Recognizing the importance of customer service and support, Gabe

places a strong emphasis on receiving calls and confirming orders. He can help customers with product questions, stock and pricing.

Fully enjoying California both professionally and personally, Gabe enjoys spending his free time playing baseball, surfing or golfing. However, his favorite time is spent with his two daughters, Ashley and Brittany.

To learn more about the products and services Gabe can offer you give him a call at **559.253.3355**. He'll put his experience to work for you. Call him today!