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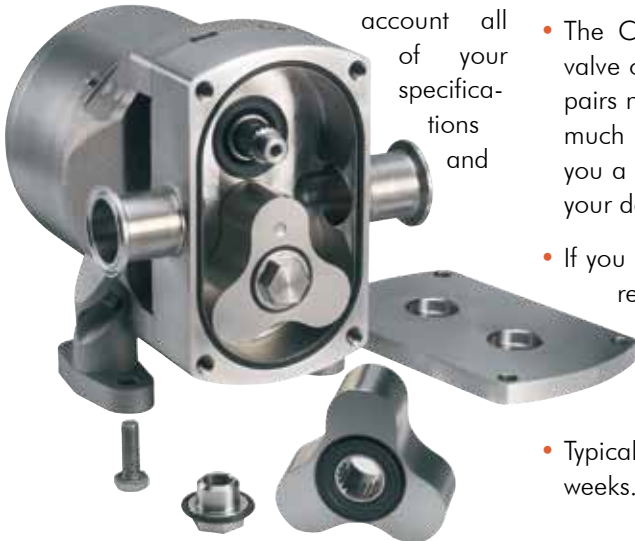
CSI's New Pump & Valve Repair Sets You Free

Faulty equipment can be responsible for wasted time, money and labor; and, can even lead to wasted or contaminated product. However, you might not be ready to invest in a brand new replacement. CSI solves this problem with our new **Pump and Valve Repair Service**.

We designed this new program entirely around our customers' needs and convenience, keeping in mind the importance of a deadline. And here's the best part: we kept things simple. This is how it works:

- Once you identify a problem **pump** or **valve**, contact your Inside Sales Representative (ISR) at CSI. If you don't know who that is, or you haven't established one yet, then anyone of our expert staff can help you. Your ISR will take into

account all of your specifications and



concerns, and determine if the pump or valve should be sent in for evaluation.

- If sending your item for evaluation, include a purchase order for the \$100 evaluation fee.
- Be sure to complete a **Cleanliness Certificate Form**. This is needed to protect our repair technicians from any harmful products.

We designed this new program entirely around our customers' needs and convenience.

- The CSI technicians will evaluate the valve or pump and determine what repairs need to be made, as well as how much it will cost. Your ISR will send you a quote for the repair and wait for your decision.
- If you decide to move forward with the repair, then we will fix your item. If you decline the repair, we will send the pump or valve back to you.
- Typically, repairs take around three weeks. If the circumstances call for a

faster turnaround, we can expedite the process for you. As always, we will keep you updated on any changes or issues if they arise.

That's it! We repair your pump or valve, and you can avoid the cost of a replacement.

Although this is a new facet of CSI's service, it's backed by our reputation for complete customer satisfaction. We've provided expert fabrication and field installation from the start of our company, and the pumps and valves we now repair are the same ones we've been installing for decades. This installation requires an intimate understanding of how the equipment functions, and we transfer this knowledge to our new repair service.

Contact your Inside Sales Rep or call us at **800.654.5635**, and let CSI free you from the worry of what to do with your equipment.

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CSI Hones Its Focus with New Processors' Group

Processors are companies or individuals that make products for customers, specifically things that go in or on your body. They rely heavily on their equipment, and appreciate the value of a well-made piece of machinery. At CSI, we understand the need for higher-quality equipment, but we also know that a network of *concerned and supportive individuals* is just as important. That's why we've created our new **Processors' Group**, a team of experts who live and breathe the processing industry.

Liz Braden



As an Inside Sales Representative focusing on the Midwest Region, **Liz Braden** brings manufacturing experience from Illinois where she worked as a Manufacturing Engineer.

Liz received her Bachelor's in Engineering Management from the Missouri University of Science and Technology. Afterwards, she accepted a position with a food processor as a Process Engineering Resource where she worked to help improve the plant's processes.

"Working with processors means being prepared to solve problems, ask questions, and look at a wide range of options."

"Working with processors means being prepared to solve problems, ask questions, and look at a wide range of options," said Liz. "It can be a very involved and complex process, and I enjoy the challenge."

Liz's experience, education, and enjoyment of interacting with others make her a valuable asset to CSI and CSI's customers. She is extremely familiar with products that processors need, and her background gives her insight into understanding customers' needs and finding solutions to their problems. If you have a question about a product or

its application, call Liz at **417.929.0174**, or email lizb@csidesigns.com.

Laura Williamson



Whether you need equipment quoted, an order processed, or a problem solved, **Laura Williamson** is your go-to Inside Sales Representative.

Laura knows the needs that are unique to processors—avoiding lost time, cutting down wasted product, and having quality equipment. In order to service her customers effectively, Laura has learned about a variety of different product lines and applications, including **ITT** diaphragm valves, **Ace** hose, and biopharmaceutical fittings. With this knowledge, she offers expertise on a wide range of products to this customer group.

Laura resolves concerns for customers in the Southeast Region. When CSI first came into contact with this region, it largely consisted of biopharmaceutical customers. As this industry has grown, Laura has grown with it, expanding her capabilities in the biopharmaceutical industry. She knows how important documentation is in this industry; so, she's always ready to meet a customer's need for traceability, even down to the smallest gasket.

When you need a piece of equipment to serve a specific need, put Laura's diverse product knowledge to work for you. Give her a call at **417.929.0103**, or email lauraw@csidesigns.com.

Dennis Moss



When you speak with **Dennis Moss**, Inside Sales Rep. for the Western Region, you're talking history. That is, a history of experience in the industry.

His path up and through the industry began in 1986 in the maintenance department at Golden Cheese Company of California. Before he left to return to the Ozarks, he was supervising and training

mechanics and new hires in the sanitary fabrication processes and techniques.

The customer is our most important focus; so, we take the time and effort to meet our customers' needs.

Back home, Dennis began working as a process systems technician as well as a field fabrication superintendent, managing projects with companies such as: General Mills, Kraft, DFA, DairiConcepts, Jasper Products, and Leprino Foods. From the field, Dennis moved into equipment manufacturing with the Paul Mueller Company.

Now at CSI, Dennis has years of experience. "I'm concentrating my attention on the processors or end users in our customer base," he said. "With the experience I have, this is where I can bring the most benefit to the customer. Customers can call me about anything."

When solving a concern with a processor, Dennis knows that timeliness of response and finding the right parts is paramount. "What makes CSI stand out," he says, "is that we are much more than just a supply house. We aren't just filling another order. The customer is our most important focus; so, we take the time and effort to meet our customers' needs."

Next time you have a challenge that requires an expert solution, give Dennis a call at **417.929.0106**, or email dennism@csidesigns.com.

Upcoming Events

**ISPE Boston Area Chapter
Annual Product Show**

October 5, 2011
Gillette Stadium
Clubhouse
Foxboro, MA



Considering Direct-Contact Steam Injection?

When considering using **direct-contact steam injection** (DSI) for a process heating application, it is important to first understand the two basic techniques—direct and indirect transfer—used to transfer heat into fluids for process and utility heating.

Indirect contact heat exchangers such as shell-and-tube, plate-and-frame, or scraped-surface designs have two or more fluid flow paths to prevent the fluids from mixing. The heat is transferred from one fluid to another across a thermally conducting but otherwise impermeable barrier, such as a tube wall or plate.

Direct-contact heat exchangers transfer heat by injecting steam directly into the process fluid. This results in rapid heat transfer and often is more efficient than indirect heat exchangers. Direct-contact steam heating provides 100 percent thermal efficiency because both the sensible and latent energy in the steam are used. The heaters themselves are installed in-line with the process piping and usually are more compact than indirect heat exchangers, saving valuable floor space.

Direct-steam injection heaters may be the best option for hard-to-heat fluids such as slurries or highly viscous materials that tend to clog; fluids requiring nearly instantaneous heating such as some food products; and, products that would bake onto heat exchanger surfaces.

Energy savings can be considerable, with reductions in energy uses of 20 to 25 percent.

Types of direct-contact steam injection heaters include tank spargers, in-line spargers, mixing tees and internally modulated steam-injection heaters. Direct-contact steam heaters can be classified as either externally modulated or internally modulated, which refers to how the steam injected into the process fluid is controlled.

External Modulation

An **externally modulated steam heater** uses a steam-pressure control valve to regulate the amount of steam injected into the process. The valve is located in the

supply steam piping. At times, steam velocity and the volumes of steam and fluid mixing can vary widely over the operating range. Vibration, poor temperature control, and inefficiency result at some operating conditions. Tank spargers, which use external modulation, can experience steam hammer and vibration damage to tanks. Energy inefficiencies also can occur with this heating method when the steam does not completely mix and escapes from the tank.

Internal Modulation

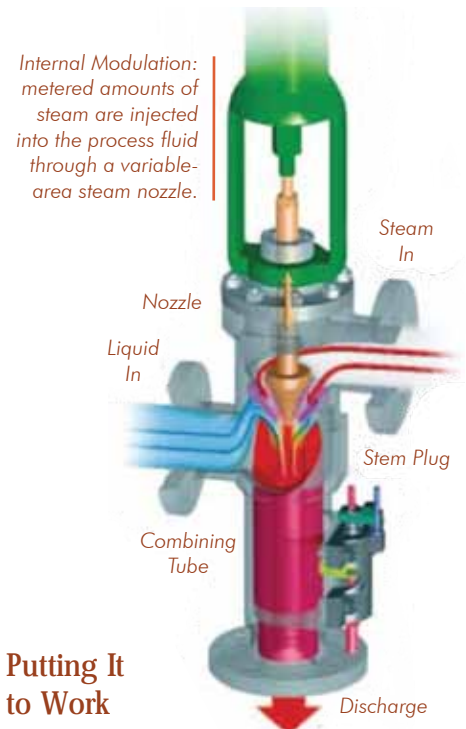
With the **internally modulated direct-steam injection heater**, steam flow is controlled through a stem-plug assembly inside the heater. Changing the steam discharge area of the nozzle varies the amount of steam passing through the nozzle, and maintains good mixing characteristics.

Internally modulated direct-contact steam heaters inject metered amounts of steam into the process fluid through a variable-area steam nozzle. The nozzle design ensures constant steam pressure and velocity at the point where steam contacts the liquid or slurry, eliminating the potential for pressure upsets and ensuring smooth heater operation. Internally modulated direct-steam injection heaters are cleaned by their own turbulent mixing action (usually sonic velocity steam); so, they do not encounter fouling or scale buildup. Because of this cleaning and mixing action, they are able to heat slurries containing a high concentration of solids or non-Newtonian liquids.

Advantages

With direct-contact steam injection, energy savings can be considerable, with reductions in energy usages of 20 to 25 percent. Condensate return is not needed as all of the steam's energy is transferred to the process.

Energy savings aren't the only advantage of direct-steam injection. Less heat exchangers lead to less required maintenance; the turbulent action and thorough mixing can eliminate the need for equipment such as mixers; and, the small size of direct-steam injection heaters can reduce floor space requirements.



Putting It to Work

Specifying direct-steam injection heaters and properly sizing the equipment for an application entails an examination of process requirements, general process information, and the fluid characteristics. Properties such as specific heat, density, solids content, and viscosity need to be identified, in addition to any abrasive or corrosive products that are present.

Application conditions such as flow rate (normal, minimum and maximum), inlet and discharge temperatures, pressure, and pipe sizes must be examined. Users should determine whether manual or automatic temperature control is desired, and whether continuous, intermittent or variable operation will be the norm. Properly sizing the heater determines maximum performance and benefit—both short term and long range.

It is also important to remember that direct-contact steam injection is only suitable for water-miscible liquids (the fluid and water must mix).

If **direct-contact steam injection** sounds like the right application for your process, contact your Inside Sales Representative, or call **800.654.5635**. Our experts can advise you about concerns specific to your process.

Courtesy of www.hydro-thermal.com



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Go with the Flow

Chances are, you've faced a situation that, try as you might, you just couldn't solve on your own.

Looking—and asking—for ideas, feedback, and innovative solutions from other experts in the hygienic processing industry is extremely beneficial.



How would you like to have access to trends and advances in the hygienic processing industry without being bombarded with advertisements?

Then take a look at a dynamic new website: www.FlowGeeks.com.

The purpose of this collaborative space is to provide a free exchange of ideas dealing with hygienic processing equipment and the industries where it is used. On FlowGeeks.com you can read relevant articles, ask questions, watch instructional videos, and participate in discussions with other industry experts. You can even subscribe to the RSS feed or sign up for email updates.

To join in the conversation, log on to www.FlowGeeks.com.