



SIEMENS

Ingenuity for life

Case Study

Henry Filters finds savings with Siemens Sirius Innovations Infeed System

by:

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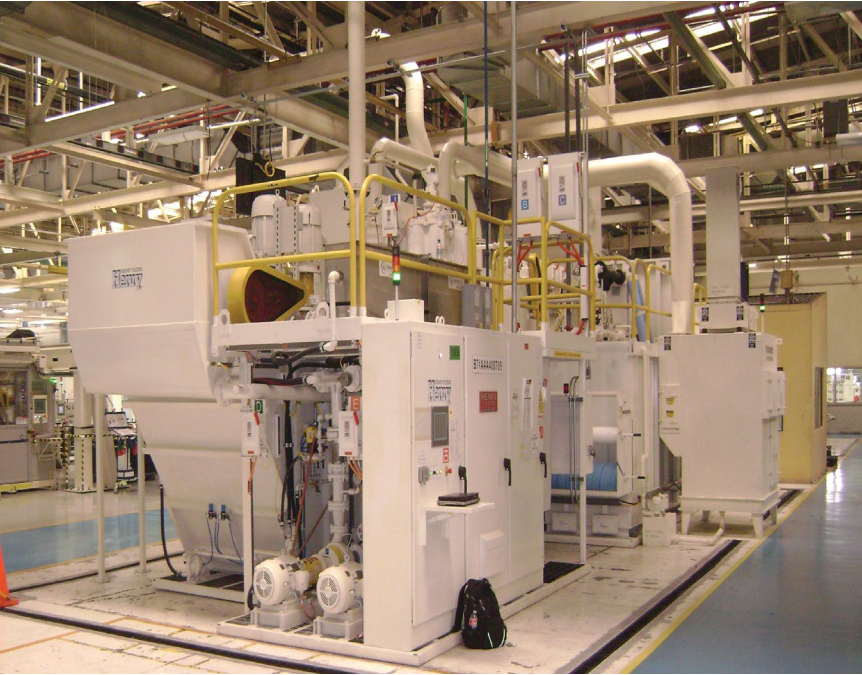
Henry Filters, a division of Barnes International, Inc., is a leading manufacturer of custom industrial liquid filtration systems and chip/swarf processing equipment. The filtration methods employed include; vacuum, gravity, pressure and magnetic. Each system is engineered and manufactured at our Bowling Green, Ohio, facility beginning from raw steel materials and ending with the complete finished product.

Based on the size and complexity of the project, these custom-engineered systems can be shipped in one piece or multiple pieces to automobile manufacturers and their suppliers, as well as machine tool manufacturers, aerospace, energy and the steel industry. Our systems are found in thousands of applications and facilities worldwide.

At Henry Filters we take pride in our product engineering, equipment manufacturing, panel build, project management, and service we have been delivering from our Bowling Green location for more than 60 years. A big part of our success is our ability to

deliver completely pre-piped and pre-wired systems. In many cases all our customers have to do is supply a single power feed and pneumatic drop and the system is ready to support production.





Our analysis also revealed that replacing fuses with the snap in breakers greatly reduced material costs, further helping Henry Filters offer competitively priced products.

Henry Filters has differentiated itself from other filter suppliers by continuously bringing innovation to our portfolio of products, including our endless belt technology which utilizes positive continuous seal technology to supply the best filtration available on the market today.

Our operations follow the highest quality certification standards in manufacturing our filtration systems to our high quality standards. Henry Filters currently holds, ISO 9001:2008 Quality Management System Certification and ISO 14001:2004 Environmental Management System certification.

This turnkey focus and obsession with quality is essential to our customers' success. Our systems run continuously, 24/7. If the coolant goes down, production stops. In the automotive industry, for example, that could result in thousands of dollars in losses over a short period of time.

We also carefully evaluate our suppliers' products for total cost of ownership, including labor, availability, support and material cost. This keeps our systems competitively priced, resulting in a win-win relationship between Henry Filters and our customers.

Steve Vollmar, Henry Filters Operations Manager, puts it best. "We are always looking for creative ways to lower overall costs. We pride ourselves in building state-of-the-art controls systems while maintaining the same high quality equipment for which we are known."

Innovation evaluation

A good example of how we keep this leading edge while delivering low total cost of ownership took place in 2012,

when we supplied our Henry Filters Endless Belt Gravity Filter (EBGF) with Polishing Media Vac Filter (MV) system to the Chrysler plant in Saltillo, Mexico. The system was designed to filter 1100 gallons per minute to the aluminum block machining process.

The EBGF filter system incorporates a continuously moving gravity belt loop through which all of the incoming fluid passes. A drag conveyor is included, below the belt loop, for removing large contaminants from the dirty coolant. The drag conveyor runs continuously. After passing through the gravity belt, the filtered coolant enters a larger settling tank where it has time for air to escape and particulate to settle. The coolant in this tank is then pumped through secondary filtration equipment before being returned to the block machining process. The MV filter process a portion of the coolant from the settling tank to help remove the very small particulate which helps extend coolant life.

As we designed the controls system for the Saltillo filter system, we discovered a new and cost saving way to accommodate Chrysler's requirement for a fuse-less electrical control panel, maintain a short circuit current rating of 65KA at 480Y/277 VAC and simplify the overall panel design.

Siemens came to us with its Sirius Innovations 3RV29 Infeed Bus System that showed promise to not only dramatically cut material and labor costs, but save cabinet space and increase uptime. Sounding almost too good to be true, we reached out to other suppliers and asked "who else has this?" The answer was nobody. So, as always, we closely evaluated the new technology for performance and return on investment potential.



The Siemens 3RV29 infeed system is much less labor intensive.

Modularity saves fabrication time and space

What first caught our attention about the three-phase, power distribution bus was its modularity. Instead of using time consuming wiring and tagging motor starters, components inside the control box snap together onto a bus with plug-in connectors. The bus is then easily connected to a standard 35mm DIN rail.

In our evaluation, we found it took 20% less time to wire the same components inside the machine-mounted panel when compared to standard design methods. On a typical three-door panel for a job like the Chrysler installation we estimate a savings of 30 hours associated with the wiring and tagging with our standard design.

Additionally, our evaluation showed that the 3RV29 infeed system saved valuable space inside the panel; a benefit that is highly attractive to our automotive customers. The system required only 380 square inches of panel space, opposed to 450 square inches with our traditional design. That is a 15% space savings.

With the 3RV29 infeed system we even have spare capability built into the panel for additional motors if needed. So when we needed to add another motor to the system in Jan '15 there was no worry about power distribution blocks, or things that typically use up all the space in the initial design phase. No additional 480v supply wiring was needed. The addition was very easy; just snap in the required base module, plug in the 480v supply connector and complete the control wiring. No drilling was required so there was no worry about potential issues with metal shavings falling on

or into existing components. Other manufacturers offered comb-style busses. If you wanted to add on to comb-style busses, you have to disassemble everything. The Siemens 3RV29 infeed system is much less labor intensive.

Material costs reduced, uptime increased

Our analysis also revealed that replacing fuses with the snap in breakers greatly reduced material costs, further helping Henry Filters offer competitively priced products.

For example, power wire material costs in a typical, traditional panel add up. The 3RV29 infeed system eliminates approximately 50% of the wire previously used to connect the fuses and other panel components.

Consider the costs associated with stocking replacement fuses and other components. By replacing the fuses with circuit breakers, the end user reduces the need for maintenance stocking. That added up to a 32% savings in inventory costs for our customers.

Further, because the IP20 finger-safe, MSP motor protection devices are resettable, the time required to lock and tag out the system, find a replacement fuse, get the right fuse puller, get a LEXAN blast shield and then install a replacement has been greatly reduced. Instead of being down most of the day to correct an overload, operators spend about one hour resetting the system.

Because the components are modular and quickly snapped onto the bus, time consuming wiring and tagging has been eliminated in the field as well, not to mention the possibility of installing the wrong fuse.

Added benefits

There are other, not so obvious selling points with the 3RV29 infeed system. Since the product is often shipped via trailer in one piece to its final destination, it may encounter a rough ride along the way (especially from Ohio to Saltillo). Because we have greatly reduced the number of 480v wires landed on the distribution block, the chances of wires becoming loose are remote. In the past, technicians at the final location had to painstakingly tighten up every lug. Now that the components are snapped into place, there are no more worries about loose lugs.

Finally, and this is hard to quantify, there is something to be said for a clean looking panel. The wires are gone and it certainly makes the panel more attractive for our customers.

More business

As Vollmar says, "With so many advances in supplier products, especially in electrical controls, it is very important to make sure we are examining each one of them and how they can help make our equipment better for us and our customers."

Following our evaluation, we standardized on the Sirius Innovations 3RV29 Infeed System. It has already helped us win more orders. Since the first Chrysler installation, we have been awarded several more Chrysler projects in different locations. We have also been involved with expansions at the Saltillo facility.

In sum, customers are always looking for lower cost systems without compromising quality. We evaluate technology advances as they come. We may not adopt all of them, but the 3RV29 infeed system goes a long way to reduce costs and increase the quality of our product.

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