

The Emerson severe service team provides global customers with Fisher® severe service control valve solutions. Whether it is severe service applications for the power, hydrocarbon, chemical or pulp and paper industry, these technical experts deliver sound solutions to address critical applications for aerodynamic noise, cavitation and out-gassing issues, as well as particulate erosion. Please visit our website or contact your local Emerson sales office for more information on how the severe service team can help you.

Emerson Builds New Manufacturing Facility in Brazil

Emerson has announced plans to invest \$35M US to expand its manufacturing plant and operations facility in Sorocaba, Brazil, located approximately 95 kilometers west of Sao Paulo. The shared-services site will support administrative functions and serve as the company's headquarters in Brazil.

Chief operating officer Ed Monser said Brazil, already an important market, is expected to grow as the economic recovery takes hold. "This investment positions Emerson's businesses to better serve customers in Brazil, and it reinforces our long-standing commitment to market growth throughout Latin America," he said. "We are excited about the automation technologies we can provide to our customers in Brazil to support offshore subsea oil and gas exploration and production. Our recent acquisition, Roxar, is an industry leader in this space."

Emerson is constructing a new, 45,000 square-meter facility in Sorocaba for the manufacturing and office needs of several of its divisions, including Emerson Process Management. The first phase of construction began during the first quarter of FY10 and is expected to be complete by the second quarter of 2012. During that time, the number of employees at the Sorocaba campus is expected to double.



One of the large Fisher valves manufactured in Sorocaba, Brazil, for an offshore oil production platform.

Emerson established a presence in Brazil in 1972 and has nearly tripled its sales in the country since 2003. Currently, Emerson-Brazil has more than 1,000 employees, five manufacturing sites, a project and service center in Macae, and ten sales offices around the country.

Plugging Eliminated in Blow Down Control Valve using Fisher® Dirty Service Trim

Challenge. This Canadian oil producer's first ever oil sands project uses an in-situ recovery technique known as steam assisted gravity drainage (SAGD) to develop bitumen resources from the Clearwater formation.

Only a few weeks after being placed into operation, plant personnel contacted their Emerson Local Business Partner because a three-inch control valve with anti-cavitation trim was plugging up. The valve is downstream of a glycol exchanger and controls the level in a steam separator.

Operators noticed that the valve would not pass the required flow and pulled it from service. The technicians noticed immediately that the cage holes were plugged with particulate.

A few weeks later, the cage plugged again and was pulled and cleaned once again. The valve was pulled from service a total of eight times in six months and site technicians determined that the particulate in the flow stream was going to be a permanent condition.

Solution. After a thorough review of the application and the service conditions, Emerson engineers recommended that the original trim be replaced with Fisher dirty service trim. Dirty service trim is a patented multi-stage, anti-cavitation control valve trim for use in services where fluid may have entrained particulate that could plug the passages of, or cause erosion damage to, conventional anti-cavitation trims. Its large passages allow particulate to pass through the valve and stage the pressure drop to prevent cavitation.

The original trim was removed and dirty service trim was installed into the existing valve body without removing it from the line.

Result. Expected flow rates are now being achieved. The valve and dirty service trim have been in continuous service for more than a year with no plugging problems encountered.

Fisher® Dirty Service Trim Poster is Now Available from Your Emerson Sales Office

A new poster showing Fisher cavitation control for dirty service applications is now available. The poster shows cutaway images and corresponding product data for the Fisher NotchFlo™ DST control valve, Dirty Service Trim (DST), DST-G control valve, and 461 angle valve. Poster size 12”(w) x 18”(h). Contact your Emerson sales office for a copy.



Fisher® Valve Offers Superior Performance in CCR Catalyst Flow Control Application

Lumax Taiwan, an Emerson local business partner, recently won an order for two valves to control the flow of catalyst from reactor to regeneration tower in a continuous catalyst regeneration (CCR) application. The customer, a major player in Taiwan's refining and petrochemical industry, processes 540,000 barrels per day of crude and produces a wide range of petrochemical and chemical products. The refinery has experienced poor performance with their non-Fisher valves in this application over the years. The service conditions for this valve are highly demanding due to the abrasive catalyst fines. At the same time, the valve must be able to control the flow of solid catalysts in the loop.

During a plant shutdown last September, Lumax was asked to help solve the problem. They specified a Fisher SS-138B control valve as the recommended solution. The special design of the SS-138B valve prevents crushing of the catalyst spheres, adding to the service life of the catalyst and maintaining the efficiency of the CCR unit. The valve uses a specific clearance between the flow ring and hardened Vee-Ball™ rotary control valve trim. The SS138B is designed according to UOP requirements and has an excellent track record in many refineries around the world.

Fisher valves have once again proven to be the control valve of choice for refinery customers around the world. They offer superior technical advantages backed up by knowledgeable and experienced local and factory support.



New Fisher® Bore Seal Trim is Ideal for Steam and Gas Applications Requiring Class V Shutoff

Emerson has developed a patented valve trim balancing and sealing concept known as the Fisher bore seal. The bore seal design is intended for use in pressure-balanced, cage-guided, sliding stem valve trim required to provide Class V shutoff per ANSI/FCI 70.2 for steam/gas applications.

The bore seal concept employs a variation of the proven C-seal trim with enhancements for use with large body hung cages. The bore seal employs a metal, c-shaped cross section, seal ring that is secured to the outside diameter of the valve plug. This seal ring is positioned above the radial flow ports of the cage at all travel positions. Upon closure of the plug onto the seat ring, this seal ring is compressed into a reduced bore in the cage, which is also above the radial flow ports. This compressed seal condition creates radial sealing forces that prevent flow between the plug and cage clearances.

The seal ring function is required only when the valve is in the closed position and the plug is in contact with the seat. When the plug moves off the seat for modulation, the seal ring is released from the reduced cage bore section. During modulating travel, a radial piston ring assumes the role of secondary leak path blockage while the valve plug is open. Features and benefits of the bore seal include:

- **Class V Shutoff at High Temperatures**—The bore seal can attain Class V shutoff at temperatures ranging from 316°C (600°F) to the full rating of the trim.
- **Stable Control During Modulation**—During modulation the Bore Seal is not engaged. This lowers the friction within the valve. The lower the friction within the valve, the less deadband overshoot and better control.
- **Easy Assembly**—The broadened engagement area for the bore seal allows for easier assembly. This broadened engagement area allows for greater variability in manufacturing and, more importantly, in field maintenance.
- **Long Life**—The bore seal material (N07718) has better wear resistance than other material such as Graphite piston rings. No engagement during modulation between the cage inside diameter and the bore seal also assists in prolonging the life of the seal. A radial piston ring assumes the role of secondary leak path blockage while the valve plug is open.

Subscribing to the Severe Service Journal is Fast and Easy

If you're reading this, then you may have already signed up for the Severe Service Journal. If not, or if you know of others in your company who would benefit from receiving it, we invite you to subscribe.

Our mission is to provide our current and future customers with Fisher product and technology information, as well as highlight real-world installations of severe service products and how they've helped solve customer application problems.

By subscribing to the Severe Service Journal, you'll stay informed about Emerson's capabilities to provide solutions and support for your severe service applications. Below are answers to some common FAQs.

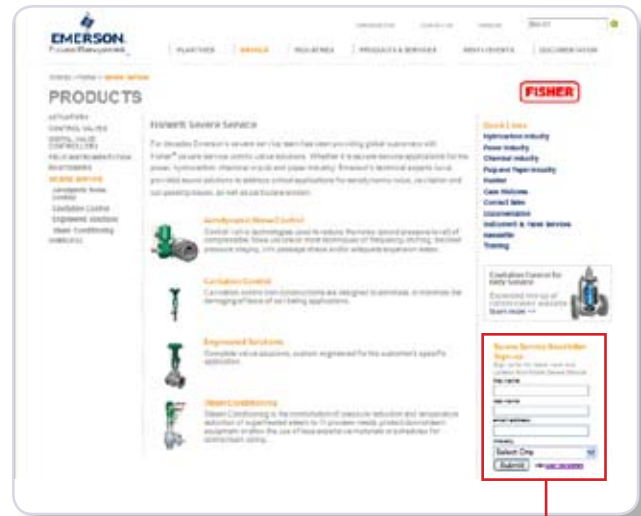
Where do we sign up? Subscribe to the Journal by signing up on-line at www.FisherSevereService.com. Go to the bottom-right corner of the page and fill in the blanks.

Who should sign up? Key decision makers in business, financial, and technical roles who are directly involved in, or influence the selection and acquisition of severe service solutions.

How is it delivered? The journal is sent via email to all subscribers. There are four issues each calendar year.

Which industries/applications are covered? Content is focused on the power, hydrocarbon, chemical, and pulp and paper industries with any application where noise, cavitation, flashing, and out-gassing are issues.

What kind of content is included? The journal features new technologies, products, and solutions; describes how we solve real-world problems; and highlights recent success stories.



Celebrating 20 Years of “Making it Special”

This spring, the Emerson special products group celebrates 20 years of dedicated service to companies who need a custom solution to their unique processes or challenging installation problems. These talented men and women are experts in understanding and solving noise, cavitation, high pressure, and dirty service applications in a wide range of industries. Since its creation in 1990, the group has grown more than five fold in size and solved tens of thousands of application problems worldwide.

If a standard product solution falls short of meeting your needs, contact your local Emerson sales office and have the special products group make something special for you!

The Severe Service Journal is published quarterly by the Fisher severe service team and is distributed by email. To subscribe, go to www.FisherSevereService.com.

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