Jan - Apr 2011 • Issue 23

FISHER IN CONTROL

CORPORATE NEWS

Emerson Acquires Fisher Sanmar Joint Venture

Acquisition strengthens Emerson's support for Indian Market

Emerson (NYSE: EMR) today announced it has acquired full ownership of its Fisher Sanmar Limited joint venture from Sanmar Engineering Corporation, expanding the capabilities of Emerson Process Management in India.

This acquisition adds to Emerson Process Management's offering of control valves, industrial regulators and other process technologies and services through the Fisher brand.. The purchase price was $135 million for the business and additional land.

The company, expected to be renamed Emerson Process Chennai Private Limited, will expand sales, service and industry coverage of Emerson Process Management in India and the region and strengthen its supply base. Sales of the joint venture in FY2010 were about $40 million.

"We have had a very productive partnership with Sanmar. Over the last 18 years, they have established many excellent customer relationships and built a strong foundation," said Terry Buzbee, president of Emerson Process Management's Fisher business. "This acquisition strengthens Emerson Process Management's presence in India and extends our ability to serve customers. I am grateful for their leadership and commitment to excellence."

Over the next 10 years, India is expected to add more than 100GW of new thermal generating capacity, and Emerson will assign dedicated power-industry specialists to serve this market. Other industries will also receive more focus, more locally made products, and more sales coverage – enabling Emerson to reduce product lead times and improve delivery for Indian customers.

"This move is a strong complement to our investment at the Fisher Chennai valve engineering and research center," Buzbee said, "It also enhances our ability to support large, multi-national projects in India as well as those in the Middle East and throughout the region."

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Process Management

PRODUCT AND INNOVATION

Emerson expands FIELDVUE™ digital valve controllers to include FDT/DTM system interface

FIELDVUE digital valve controllers easily integrate with all process control host systems

Emerson's Fisher® FIELDVUE digital valve controllers with HART® and FOUNDATION™ fieldbus communications can now be integrated into any process control system that supports FDT/DTM technology. Using ValveLink ™ DTM software, users can communicate with any FIELDVUE digital valve controller, to perform startup, commissioning and diagnostic activities.

ValveLink software has been certified by the FDT Group for compliance with FDT standards. It has also been tested and certified for use with FDT compliant host system manufactures including Honeywell, Invensys and Yokogawa.

FIELDVUE digital valve controllers have a long history of using the AMS® ValveLink SNAP-ON to integrate into HART and FOUNDATION fieldbus host systems, such as Emerson's DeltaV™ and Ovation® digital automation systems.

The addition of DTM support provides another avenue to continue to this strong integration tradition for FIELDVUE instrument customers. Performance and reliability are the foundation for the FIELDVUE family of digital valve controllers. Their role is to maintain control valve performance, diagnose the assembly, and enable predictive maintenance. FIELDVUE digital valve controllers have logged millions of operating hours and have earned high praise from companies that employ their technology to improve plant availability. Built for extreme conditions, they have proven themselves by surviving difficult process environments in refining, chemical, nuclear, oil and gas, power, and pulp and paper industries.

For additional information on the ValveLink DTM software or FIELDVUE digital valve controllers, contact an Emerson Process Management sales office and request the FIELDVUE digital valve controller's brochure.

CORPORATE NEWS

Emerson cares and supports disaster relief for Japan

The earthquake and tsunami that hit Japan earlier this month have been devastating,

In response to the disaster, Emerson donated $625,000 USD (equivalent to JPY 50 million) to the American Red Cross, who will transfer it to the Japanese Red Cross for the relief effort. Employees outside of the U.S. are encouraged to contact their local Red Cross organization or to visit the international Red Cross website: www.ifrc.org.

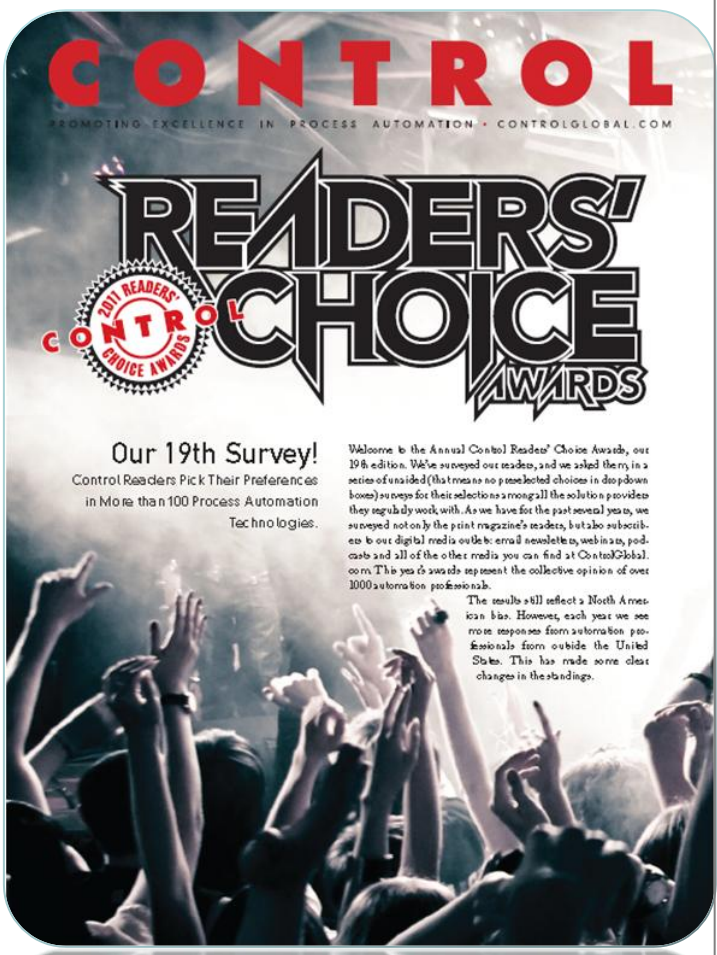
The Emerson office in Tokyo has set up a matching gifts program for Japanese employees and will get money directly to the affected families. Communication on this effort will be handled in Japan.

David Farr, CEO of Emerson Process Management said, "Our thoughts and prayers go out to those who have suffered from this natural disaster. My thanks to Emerson employees worldwide who are making donations and seeking to help Japan make a full recovery."

CONTROL magazine survey of process automation users ranks Emerson as No. 1

For 18th consecutive year, Emerson's technology chosen first in more product categories than any competitor

Emerson Process Management, an Emerson (NYSE: EMR) global business, has again earned top rankings in *CONTROL* magazine's annual Readers' Choice survey of process automation users. This marks the 18th consecutive year that Emerson products were chosen first in more product categories than any competitor.



Emerson earned 24 first-place wins – more than the next three competitors combined. In addition to categories for advanced process control software, asset management software, wireless infrastructure, and several measurement and valve technologies, users also named Emerson first for its overall capabilities in continuous regulatory control and batch process automation.

"We appreciate this vote of confidence in Emerson's ability to help our customers meet their toughest challenges," said Steve Sonnenberg, president, Emerson Process Management. "Our goal is to continue earning that confidence – not just in an annual survey but day after day."

Emerson's intelligent measurement, control, and analytical instruments and its automation systems and software are part of its industry-leading PlantWeb™ digital plant architecture, which helps process operations improve efficiency and profitability. The company's Smart Wireless technology extends those benefits to areas that were previously out of physical or economic reach, and its human-centered design approach leads to innovative products and solutions that make users' jobs easier.

Other recent honors for Emerson's industry-leading technologies and services include the results of reader surveys by *Chemical Processing* and *Control Design* magazines. Emerson Process Management dominated voting by *Chemical Processing* readers as they identified suppliers that best met their industry-specific needs. And in the *Control Design* survey of equipment builders and system integrators, Emerson topped categories for flow, temperature, pressure, and level measurement, as well as for power supplies.

For more information, click here: http://www2.emersonprocess.com/en-US/Pages/Home.aspx

"Thank you. It's gratifying to know that our technologies and services can help so many of you improve the efficiency and profitability of your operations."

Emerson to supply Fisher control valves to SNPEC for feedwater regulation at Sanmen 2 and Haiyang 2 nuclear power plants in China

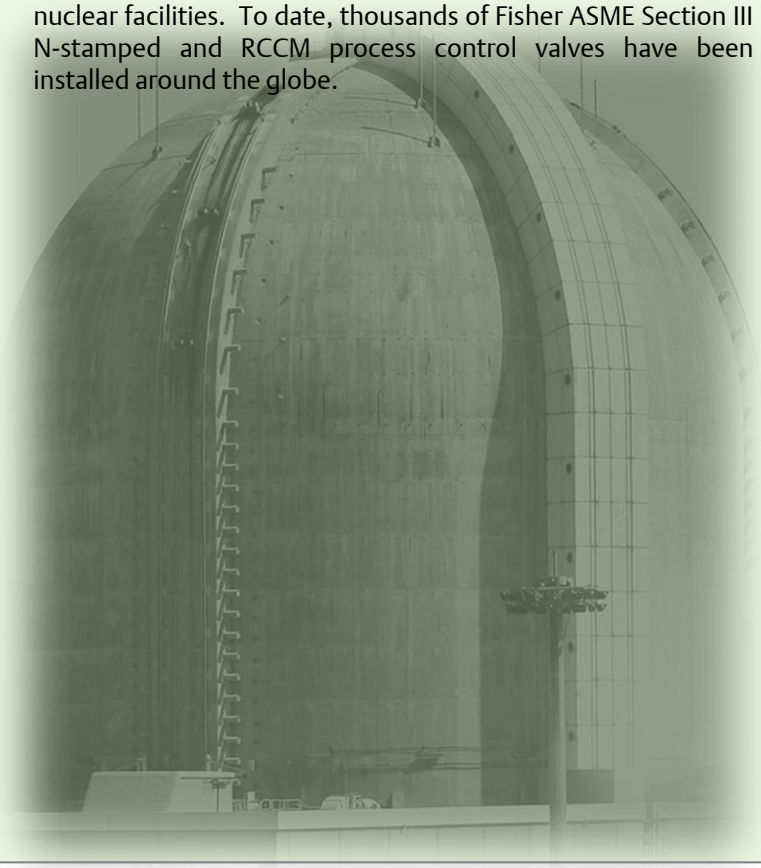
Fisher valves used in this critical system will help maintain reactor feedwater flow

Emerson Process Management has been awarded a multi-million dollar purchase order from State Nuclear Power Engineering Corporation (SNPEC) for critical Fisher® control valves to be used in Westinghouse AP1000™ pressurized water reactors at both the Sanmen 2 and Haiyang 2 nuclear power plants in China.

The order includes valves for two applications at each plant: - a start-up or bypass valve and the main feedwater valve. The bypass valve is a specially-designed six-inch valve with a seismically qualified actuator and special trim to ensure a smooth transition with the main regulation valve.

The main feedwater valve is a 20 by 16-inch valve with specially characterized trim and actuation to ensure rapid but stable response. The actuators for both valves have been sized using EPRI guidelines to meet industry standards.

For over 35 years, Emerson has supported nuclear facilities worldwide with Fisher nuclear valves and associated services. In fact, Fisher valves are installed in over 90% of the world's nuclear facilities. To date, thousands of Fisher ASME Section III N-stamped and RCCM process control valves have been installed around the globe.



Feedwater Valve

- ❑ Cavitation protection at low travels for start up.
- ❑ Integrated handwheel, spring-return actuator and long-stroke spring-return piston actuator.
- ❑ High performance packing for low friction and excellent sealing.
- ❑ Trim designed for extended service life.

Some valve positioners are delicate and prone to problems.

Who wants them?

Robust and reliable, FIELDVUE™ DVC6200 digital valve controllers have been tested and proven in applications with high levels of vibration, corrosion, or material entrapment. No more process interruptions caused by linkage failures—DVC6200 instruments have linkage-less, non-contact feedback technology to eliminate wear while maintaining accuracy. What's more, they can spot valve assembly issues before they impact the process when equipped with Performance Diagnostics. DVC6200 digital valve controllers can be mounted on any actuator and communicate via HART,® FOUNDATION™ fieldbus, or PROFIBUS. They have CSA, IEC, FM, and ATEX hazardous area approvals. Learn more by visiting **www.Fisher.com/DVC6200**

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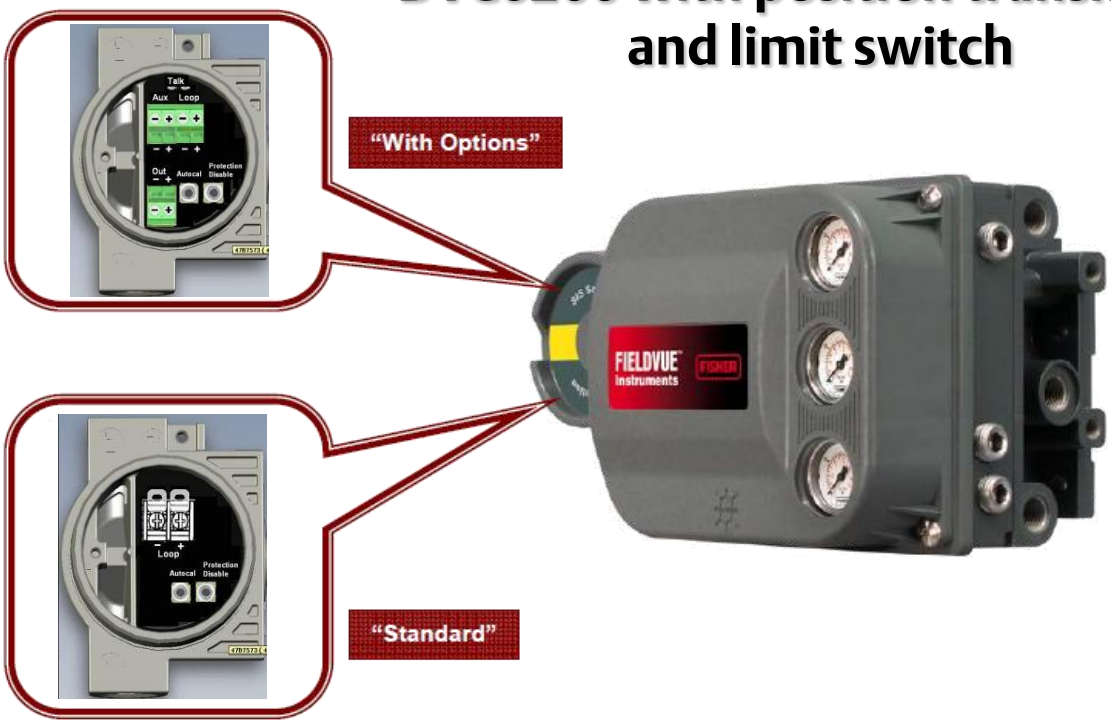
DVC6200 with position transmitter and limit switch



- Non-contact feedback technology (same as in DVC2000), hence no wears & tears mechanical feedback
- Adaptable to large travel (24")
- IS or explosion proof
- Excellent performance in vibration application because there is no contact between travel feedback and the DVC unit

DVC6200 with Position Transmitter

The DVC6200 and DVC6200SIS product lines will soon (expected release in Oct 2011) have an optional construction that can be configured for one of the following:

- 4-20mA Valve Position Transmitter
- 0-1A Switch

The switch function can be triggered from valve position (like a traditional limit switch), or the following Command 48 alerts, subject to tiering restrictions (Travel Deviation Alert, Pressure Fallback Alert, Valve Stuck Alert, LCP Tripped, SIS Diagnostic Credit Alert, Diagnostics in Progress).

New Pushbuttons

The terminal box for both the standard device and the new options will include two pushbuttons.
AUTOCAL – This pushbutton will allow a user to perform a touch-up calibration.
PROTECTION DISABLE - This pushbutton is used only during a setup routine that is initiated through ValveLink software, Field Communicator, AMS, etc. This pushbutton provides physical interaction during the process of configuration protection removal.

New firmware

The firmware will be registered with the HART Communication Foundation to the latest revision (HART 7). Additionally, the firmware and hardware will be certified for use in safety systems by Exida. However, because many existing host systems may not properly communicate with HART 7 devices, the firmware will also be available as a HART 5 device. HART 7 will be a no-charge option adder, specified at the time of order entry.

New Device Descriptions

Due to the significant changes to the electronics hardware and firmware code, the DVC6200 and DVC6200SIS platforms will be defined by new HART device types. As such, new device descriptions (DD's) will be required to allow a HART host to configure and calibrate the DVC6200 and DVC6200SIS.

Emerson's upgraded Fisher products for enhanced performance and targetted applications

A series of upgraded products – the Fisher GX, Rotary Control Disk™, dirty service solutions and Baumann valves - have been launched in 2011.

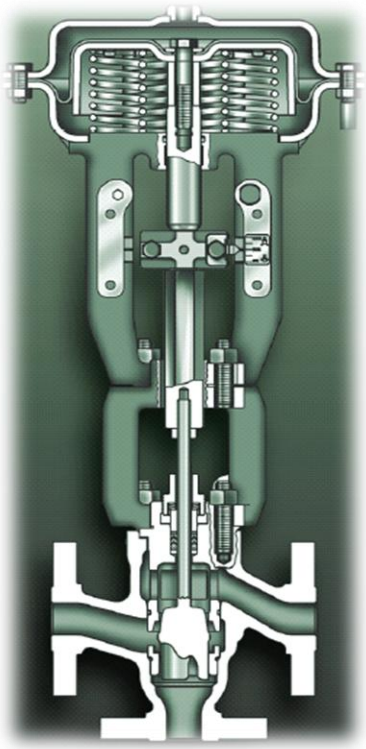
Fisher GX and Baumann

Available since April 2011, the **Fisher GX 3-way** high temperature option consists of the high-temperature, side-port common trim which utilizes an unbalanced plug design, a stem extension, a yoke extension, and includes live-loaded ULF graphite packing and a hard-faced seat ring.

The GX actuator upgrade implementation will be available on June 1st. The newer version will feature an improvement on the temperature range of -46°C to 82°C (previously -29°C to 82°C), increased reliability and the cycle life of the diaphragm plate. The spring height will be standardised for the size 750 actuator. The 40mm travel will to have ease of maintenance on the at field during the changing out of the actuator. There will not be no price change for the upgrading.

The GX 3-way is rugged, reliable, and easy to select. Internal valve trim is designed to ensure long service life and avoid unnecessary maintenance.

The **Baumann** 24000SB with 6000ps**i** option and Baumann size 32 and 54 actuators with stainless steel option are available on April 1st. In the former, the precise low flow control product with as low as 0.00013Cv at a high pressure of up to 6000psi is ideal for oil and gas customers. The latter is suitable for sanitary applications and when caustic wash down is common.



The Baumann 85000 pinch valve for disposable skids has been available since February. This product could be easily pinched around disposable tubing without having physical contact with the process fluid. Together with PlantWeb™ and DeltaV, it offers pharmaceutical customers consistent quality, better record keeping and improvements in their batch control.

For more information or enquiries, please contact your nearest Emerson Process Management sales office.

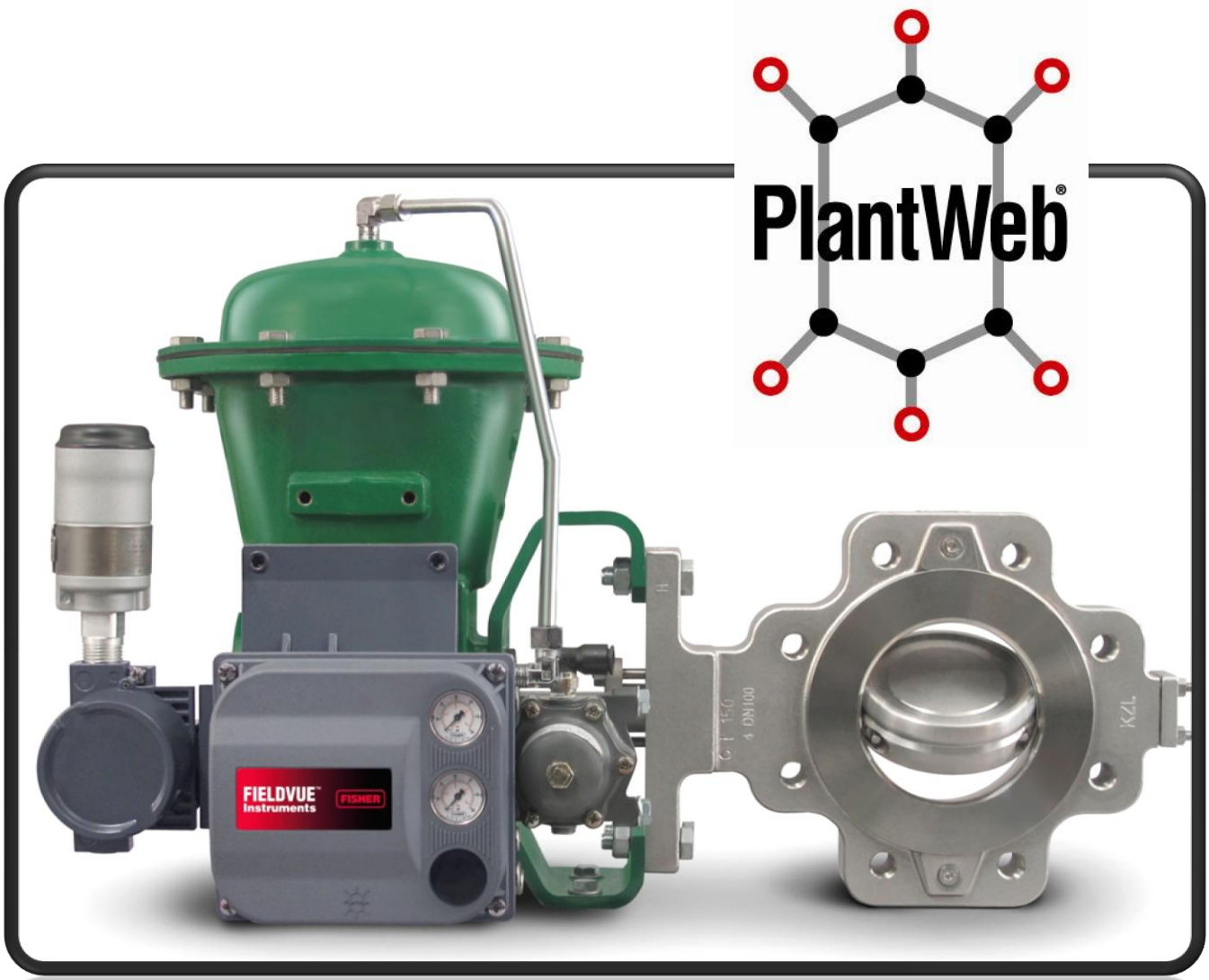
Fisher Control Disk™ valve is now available up to NPS 36

The Fisher® Control-Disk™ valve keeps process output on target. Its wide control range is twice that of traditional butterfly valves for better adherence to the process set point.

The Control-Disk valve is ideal for applications that involve fast processes and varying pressure drops, such as those in hydrocarbon, refining, chemical, pulp and paper, and metals and mining industries.

Rely on the Control-Disk valve to keep your facility onstream and operations budget on track. It is reliable and has low maintenance requirements for high plant availability, especially when it is paired with the Fisher 2052 spring-and-diaphragm actuator and FIELDVUE™ digital valve controller. This assembly can capture and deliver diagnostic data to the AMS ValveLink™ software, which provides an accurate picture of the valve, actuator, and digital valve controller performance. This makes it a core component of PlantWeb™ digital plant architecture.

Now available from NPS 2 to 36, without question the Fisher Control-Disk valve is a problem solver.

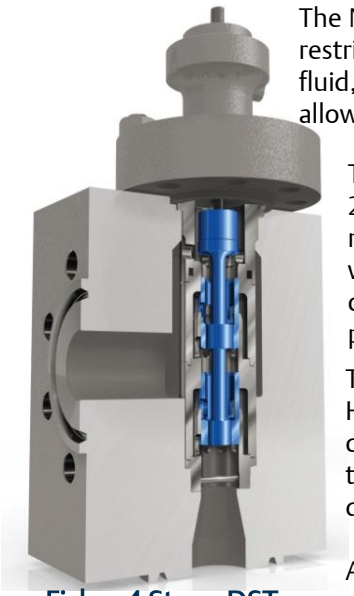


Fisher dirty service solutions for cavitation and outgassing control


Fisher NotchFlo™ Valve

Cavitating flow conditions with entrained particulate such as sand in oil production, magnetite in power plants, and catalyst fines in refineries can create tremendous challenges for a control valve. Conventional anti-cavitation trim can be very rapidly damaged in these applications resulting in frequent maintenance and high cost of replacement. A shortened valve life can also cause an undesired plant shutdown or disruption to plant operation.

Fisher control technologies are ideal for dirty service applications and these are the NotchFlo™ DST control valve, Dirty Service Trim (DST) and DST-G control valve. These technologies allow entrained particulate to pass, while resisting cavitation or outgassing damage in severe liquid flow conditions thereby significantly extending the valve service life.


Fisher 4 Stage DST

The NotchFlo DST control valve uses a series of notched flow restrictions and expansions to stage the pressure drop of the fluid, thus eliminating cavitation and outgassing while allowing entrained particulate to pass through.

The NotchFlo DST product line is currently available in valve sizes NPS 1 to 8, Class 300 to 2500 globe and angle body. The S31803 duplex stainless steel body with solid alloy 6 trim material for NPS1 to 4 and duplex stainless steel trim for NPS 4 to 8 are standard offerings which will address corrosive problems in offshore oil and gas platforms. The butt weldi end connection option is available for all sizes of the NotchFlo DST which are leak-tight at high pressures and temperatures.

The Dirty Service Trim (DST) can be installed in the Fisher® easy-e™, EW, EH, EHA, HP and HPA. These combinations are available in a variety of body and trim material. The DST uses a combined axial and radial flow path featuring a large opening which allows particulate of up to ¾ inch to pass through. It is available in 2, 3, 4, 5 and 6 stages to address cavitation depending on pressure drops.

An extensive range of Fisher products for outgassing applications are available to best fit customers' needs, depending on the pressure drop, gas volume in valve outlet and whether it is clean or dirty service. Both the NotchFlo DST and DST have been field proven for low gas volume outgassing applications while the DST-G is specifically designed to address high volume outgassing applications.

The DST-G control valve utilizes a multi-stage concept with a special pressure staging trim to control outgassing. A series of vertical slots of 1/4 inch size located around the circumference of the lower cage split the flow into smaller jets, thereby reducing the energy released by the fluid, thus preventing vibrations. These slots can also allow the catalyst to pass through the trim without plugging. The special contoured cavity design in the valve body can further reduce the velocity effect on the outlet by providing a sufficient flow area that allows the gas to expand. The DST-G control valve uses an angle body ranging from ANSI Class 150-2500. It is currently available in sizes of 1" to 12".


Fisher DST-G Valve

All Fisher dirty service control valves are designed to provide increased reliability and reduce the total cost of ownership for severe service applications with "dirty" fluids.

For additional information on Fisher dirty service products, go to www.FisherSevereService.com or contact your local Emerson Process Management sales office.

Genuine parts could save plant US$250K

The general belief that imitation parts are the same as genuine ones is untrue. Perceptions and appearances can be deceiving and the imitation part normally falls terribly short in its performance .

A major power company in New Zealand bought some non-genuine parts and saved NZ$1,500. The result? The valve got stuck in two of its start-ups causing a delay of 60 minutes each, resulting in a production loss of NZ$20K. Other non-genuine parts used in another valve that maintained the deaerator level also ran into difficulties, which could have caused a further potential loss of $250K.

It's common for many customers or end users to think that genuine parts are expensive and with imitation parts being readily available, imitation are good substitutes of the original. This is untrue and a misrepresented understanding because imitation manufacturers do not stock the full range of the parts inventory. They do so selectively. Compounded by a competitive business environment, in a penny-wise-pound-foolish bid to reduce costs, this false impression is further perpetuated by the notion that all parts – genuine or otherwise – are the same. Often, this turns out to be a costly mistake because the damage caused by an imitation is usually far greater than the cost of purchasing a genuine one in the first place.

One of the problems is that end users are not able to differentiate between an imitation and a genuine part. An imitation part can look identical like the original and the performance is therefore misconstrued as similar to those from the original equipment manufacturer (OEM).

Perceptions and appearances can be deceiving and the imitation part normally falls terribly short of the performance of a genuine part. Without full access or information on the product specifications, design drawings or codes, the material used, tolerances, temperature range or flow requirement etc, an imitation part is usually made by means of "reverse engineering", often with a much inferior material which further aggravates quality.

In buying an imitation part, end users overlook one important aspect – warranty. Like any insurance coverage, the warranty of the OEM does not cover damages caused by the use of an imitation. Customers realize this too late and only after paying a high cost for damage control.

CONCLUSION

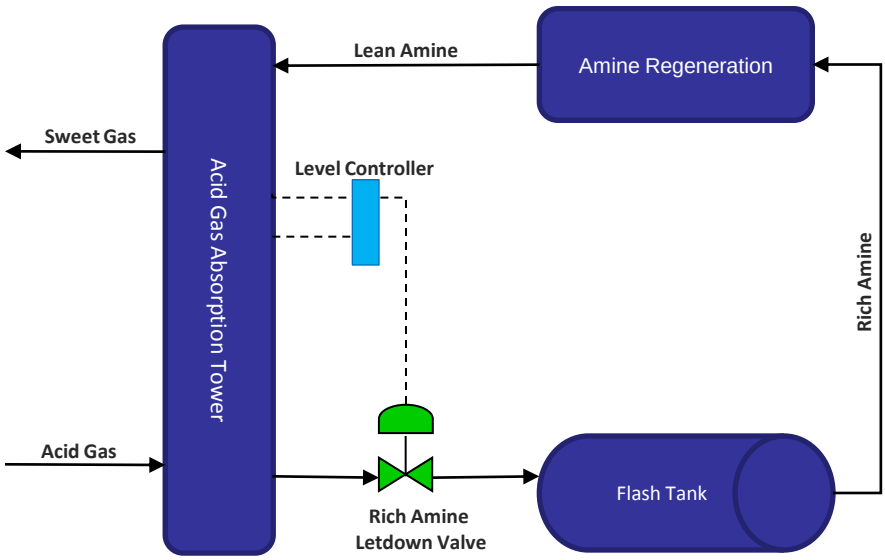
An imitation can never be the same as genuine parts because of the mechanics of construction. Genuine parts go a long way to lower maintenance, improved variability, higher reliability and better or optimum performance of a plant.

Other than a warranty which guarantees professional support and help when needed, a genuine part manufacturer like Emerson, through its local / country Fisher business partner (LBP), also offers application engineering which evaluates the technical process requirements of an application such as pressures, temperature and flow variations etc. Diagnostics, parts identification and hands-on assistance, technical as well as product training were also part of the services provided. Fisher LBPs are connected and accessible to a worldwide network of representatives, service centres and factories via a computerized system and hence, sourcing of parts items in the quickest turnaround time is made possible.

Go only for genuine parts, don't compromise on authenticity.

Fisher valves chosen by LNG Plant in East Malaysia to solve valve failure in Acid Gas Removal application

An LNG plant in East Malaysia had a problematic valve in the acid gas removal unit (Figure 1). The letdown valve was passing badly and the customer approached Transwater, Fisher's local business partner, to investigate the root cause of it and provide a solution to address the issue.



In the acid gas removal unit (AGRU), lean amine solution absorbs the up-flowing acidic gas in the absorber tower. A rich amine solution with dissolved hydrogen sulfide (H_2S) gas is formed. This fluid is then dumped through the letdown valve.

A detailed analysis by a Fisher team and Transwater showed that a high pressure drop across the letdown valve led to out-gassing in the amine solution.

This resulted in a turbulent fluid flow which further liberated a large amount of entrained gases from the rich amine solution. The high velocity small gas bubbles released also impinged on the plug. The rate of wear and tear on the plug was additionally aggravated by the corrosive solution. Consequently, the valve could not shut off properly and was passing badly.

The improvement proposal included the use of a drilled hole cage and a unique sturdy valve plug design with a trim material upgrade to increase the service life of the valve .

The customer was satisfied with the proposed solution and was convinced that the application expertise provided by Team Fisher, combined with Transwater's local support capabilities, offered the best solution. Two units of Fisher control valves were purchased to replace the problematic competitor's valves. This win has again proven Fisher's superior expertise in severe service applications.

A small problem can sometimes go undetected.

If only you'd seen it coming.

You rely on many valves to keep your plant operating smoothly. It takes only one non-responsive valve to upset your entire process. With this in mind, we've designed the Fisher® 4320 wireless position monitor for your analog control valves. The 4320 provides position feedback without the cost and hassle of wires. Now you can detect small problems before they become large. What's more, it's simple to use and easy to install. Want to learn more? Visit www.Fisher.com/4320.

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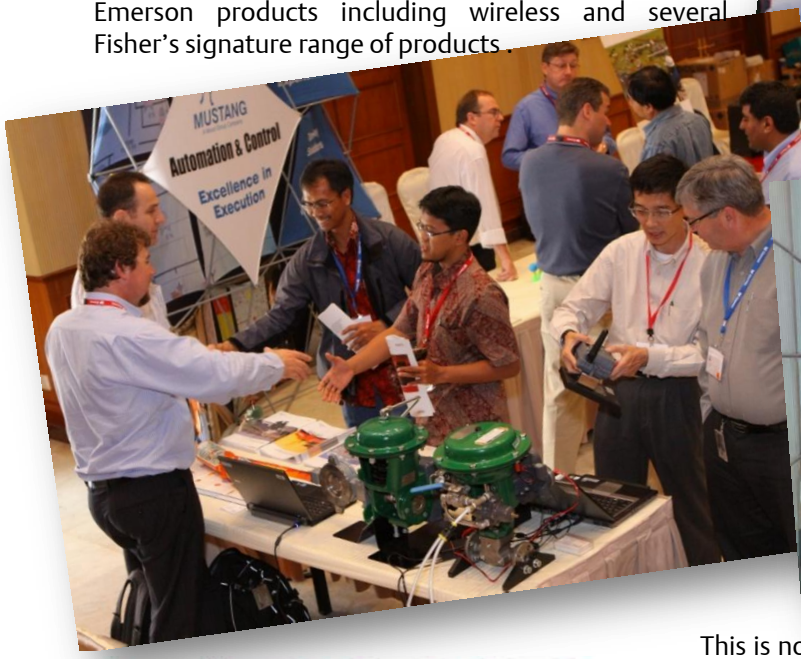
Ties that bind.
Emerson holds niche customer seminars in Singapore and China

Chevron-Emerson Exchange
Grand Park Hotel, Singapore
March 26, 29-31, 2011

The programme line-up included a day dedicated to a Fisher Severe Service session on March 26, a guest speaker from the U.S., and a demo display showcasing Emerson products including wireless and several Fisher's signature range of products.



FPSO
11 – 13 APRIL 2011
RESORTS WORLD™ SENTOSA

This is not a new business segment but the growing potential of the Floating Production Storage and Offloading (FPSO) market has been gathering momentum and gaining significance recently. Major control valve players like Emerson have noticed the trend and are gearing up for action in the business. Hence, Emerson's decision to take part in this year's FPSO 2011 as one of the item sponsors.

Performance Without Compromise

Marina Bay Sands (MBS) Singapore
April 13, 2011
Number of participant: about 200 customers

One of the indispensable values that has sustained and enabled Emerson to withstand the challenges of a competitive business environment is its total commitment to customers. Having a strong relationship with customers is arguably one of the cornerstones of its success.

Every year without fail, Emerson holds several focused events, tailoring specifically for a customer. The Performance Without Compromise (PWoC) is one of them, reaching out to customers up close and personal. It was more of old friends getting together, bonding and renewing ties.

Coal / Chemical and LNG / Pipeline seminars in Hainan, China

Mariott Sanya Hotel, Hainan China
March 15-23, 201
No. of participants: about 130

Like the FPSO, there have been a surge in business potential in these markets for Emerson. With that in mind, the two seminars were held precisely to ride on the wave of opportunity to showcase Fisher's range of control valve solutions for these market segments.

More than a hundred customers were invited for both events. Getting hands-on with the demo products on display, open sharing of industry best practices and the technology behind Fisher's products were some of the highlights that were overwhelmingly well-received by the participants.

Edward Peng, General Manager for Fisher China in his speech said that he was extremely happy with the outcome and responses of the events. He went on to say that being able to play a key role in China's development of these industries would be truly a win-win situation for both China and Emerson.

China International Nuclear Power exhibition in Shenzhen China

Shenzhen Convention and Exhibition Centre, China
April 6-8, 2011

For the first time, Emerson Process Management took a cross-divisional approach to highlight our products and services at the International Nuclear Power exhibition in Shenzhen, China.

The exhibition saw a huge turn-out of some 10,000 visitors. In response to market needs and developments, Emerson's product line up for the show included the Fisher's next generation products covering both Westinghouse's AP1000 and Areva's EPR, and the more traditional products for the CPR design in China. Along with Fisher products, there were other service offerings like the FlowScanner diagnostics and products from Topworx and Bettis.

The Japan nuclear incident on March 11, which happened before the exhibition, raised many concerns on safety issues. The Westinghouse AP1000 in particular drew much attention as its unique design is an epitome of a ground-breaking and state-of-the-art technology for the nuclear industry.

The AP1000 design is actually a pressurized water reactor (PWR). It is the only Generation III+ reactor package to receive Design Certification from the U.S. Nuclear Regulatory Commission (NRC). It is an advanced system that uses the forces of nature and simplicity of design to enhance plant safety and operations and reduce construction costs. It also features many Fisher control valve designs in the safety-related applications of a plant. Key applications include the feedwater regulation valves, pressurizer spray valves, and the all important residual heat removal valve, referred to as PV20.

As a pioneering leader in control valve technology for various industries, Fisher nuclear valves have been used in 90% of the world's nuclear facilities for the last 35 years. Click here for further information on Fisher nuclear valves: http://www2.emersonprocess.com/en-US/brands/fisher/nuclear/Pages/FisherNuclear.aspx

The Emerson presence at the tradeshow was important as it was impressive and emphasised our focus on this key industry.

Not having the correct liquid level can be detrimental to your process.

Breathe easy with a Fisher® fieldbus level controller.

Fisher® FIELDVUE™ DLC3020f fieldbus level controllers are a breath of fresh air for level applications. DLC3020f fieldbus level controllers measure process levels with accuracy and reliability so there's no uncertainty, and they dynamically respond to density changes to ensure consistent loop performance. Additionally, intuitive graphical displays, real-time access to historical operating logs, and easily-configured process fluids add value to level control processes. **DLC3020f fieldbus level controllers are sure to make a splash at your facility. Learn more at www.Fisher.com/DLC3020f**

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