



Meet your sustainability goals by
complying with evolving fugitive
emissions regulations

Fugitive Emission Reduction Technologies for Control Valves

Your trusted source for control valves



You have to adapt increasing levels of environmental regulations with limited capital

Data tells us that the major contributors to the fugitive emissions of an industrial processing plant come from your very infrastructure, in other words, the many devices and pipes that make the skeleton and articulation of your plant. These emissions are a true sustainability problem with a range of environmental impacts on the atmosphere first but also water and soil get polluted. Now your financial bottom line is also heavily impacted through **valuable product loss, non-compliance penalties and higher operating costs.**

Why valves matter?



Hundreds of devices on your plant. Leakage from a single valve is insignificant, but the collective number of valves escalates the emission to a significant volume.



Aging assets going through many cycles. All too often, valves do not receive proper maintenance until issues are identified. At that point, leakage has already started.



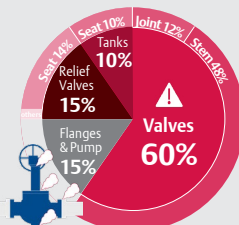
No product ownership. Unless the valve is critical to the process, it might be considered as a commodity which prevents from following up on potential leakages.



Incorrect technology choice and sizing of valves. Seals of incorrectly sized valves tend to wear out quicker and seats can become damaged.

Research concludes that valves account for about 60% of fugitive emissions of a refinery. Over half of the entire plant emissions can be eliminated by just paying attention to the valves -

* Source: Monitoring and Containment of Fugitive Emissions from Valve Stems, University of British Columbia, Vancouver



Preventing Fugitive Emissions Can Create Greener, More Cost-Effective Operations

Reduce emissions and improve process unit efficiency by upgrading 'worn-out' packings

When you install Fisher valves and instrumentation you get emissions reduction technology that is validated through testing and proven to work in your facility. You benefit from the investment Emerson has made in Fisher control valve packing development and certification for any application at your site. Whether you need to meet ISO 15848-1, TA-Luft or EPA Procedure 21 our packing systems can help you achieve and maintain compliance for the foreseeable future.

Condition monitoring and diagnostic capabilities can detect early signs of degradation that could be impacting emissions key performance indicators. Furthermore, our ongoing FIELDVUE diagnostics can help you uncover potential stem leakage issues and maintain production until the time for maintenance is right. When you do have to repair a valve, genuine Fisher repair parts are readily available where and when you need them.



Reducing your Control Valve Emission in a 3 step process

What's your opportunity?



Identify your leaking valve stem packings by enabling your smart FIELDVUE™ DVC positioner. Or use preventive maintenance and monitor on-line friction degradation trending. This allows you to act before a valve will start to leak beyond its original requirement and subsequently reduce exposure risk for your plant personnel.



If the packing is worn-out and can't be tightened to the required emission, it is time to upgrade your valve packing. Fisher ENVIRO-SEAL™ packings comply to the ISO-15848-1 fugitive emission requirements with our latest technology. Upgrading will reduce fugitive emissions, restore valve performance and contribute to improve the process unit efficiency.

FIELDVUE™ Digital Valve Controllers

FIELDVUE™ Digital Valve Controllers can remotely count the number of travel cycles and identify if a stem packing friction is abnormally low. An abnormal low friction is an indicator for a leaking valve stem packing. ValveLink™ software stores the diagnostics history and can generate an alarm when a specific cycle count number is reached, or when the stem packing friction is below a pre-defined value. These alerts, (which can be as simple as an automated e-mail) reminds your reliability or maintenance personnel to check the packing for integrity or leaking issues.



You can integrate this process in your daily maintenance work or add this to future Site Turnarounds scope and take the opportunity to upgrade any valve overhauled. This will bring your site emission down and improve your site performance.

1 IDENTIFY your main plant emission contributors



with FIELDVUE Diagnostics

Enable your smart FIELDVUE positioner and remotely identify your valves with a high chance of a leaking packing. You can even separate high vs low fugitive emission contributing valves.



with MyEmerson

Initiate a plant walk down with your local Emerson service team to review and identify leaking packing. Identify packing that require upgrade in your installed base, by contacting your local sales office.

2 ORDER retrofits kits



Retrofit Kit

GX Kit

Check the actuator force and order low emission compliant retrofit kits, which included all parts required for installation of the packing system.

3 REPLACE packing



If your maintenance team is short-handed or too busy to replace your valve packing, contact Emerson's Lifecycle Services for onsite valve repacking.

Low Emission Packing Solutions

For process control applications requiring compliance with mandated environmental protection regulations there are several packing systems available. Fisher solutions comply to different standards such as ISO 15848-1, EPA and TA-Luft.

Low Emission Packing Systems

Fisher Globe Valves



Fisher Rotary Valves



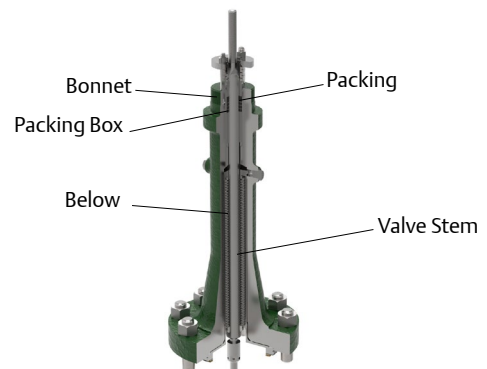
To comply to the ISO 15848-1 Standard, Emerson kept the principles of Fisher ENVIRO-SEAL packing systems and as such ISO-Seal packing uses live-loaded springs to reduce leakage. Specially engineered packing rings provide increased temperature and pressure capabilities when necessary. ENVIRO-SEAL Duplex packing systems provide the capability of graphite packing along with low friction advantages of PTFE packing. It is fire-tested solution and specially certified to BAM for gaseous oxygen service (GOX)

Fisher Bellows Seal Valves

Fisher GX Bellow Seal Bonnet

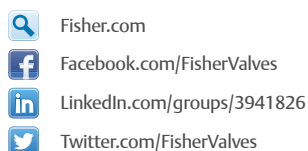


Typical Bellow Seal Bonnet for Fisher easy-e series



ENVIRO-SEAL bellows seal bonnets improve sealing capabilities of Fisher valves and provide long life for applications where emissions escaping from a valve stem seal to the atmosphere cannot be tolerated. This excellent stem sealing system is available for Fisher easy-e and Fisher GX valves.

Emerson Automation Solutions
Marshalltown, Iowa, 50158 USA
Sorocaba, 18087 Brazil
Cernay, 68700 France
Dubai, United Arab Emirates
Singapore 128461 Singapore



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