

A man wearing a white hard hat, safety glasses, and a dark blue shirt is looking towards the right. He is standing in front of a complex industrial system with numerous large, yellow-painted pipes and blue machinery. The scene is set outdoors under a clear blue sky.

Ensure full compliance of  
your nuclear plant's air- and  
motor-operated valve program.

## QUIKLOOK 3-FS Valve Diagnostic System

Achieve greater efficiency, improve safety, and reduce operations and maintenance spending with a single platform for testing safety-significant valves.



## You're operating under increased regulations and scrutiny.

The nuclear industry is under a lot of pressure. Testing and compliance regulations are constantly evolving. Every refueling outage needs to be shorter than the previous one as they're an impediment to producing power. And above all, constant attention to safety must be maintained. At the same time, competition from other energy alternatives is increasing. Nuclear plants that want to remain viable must find ways to ensure safe operation while reducing costs.

"ASME Appendix 4 is coming. Plants will need to organize and address it soon. It could require more valves to be tested and add more testing requirements. That puts increased emphasis on speeding up testing and analysis on critical valves."

—Bill Fitzgerald, Appendix 4 Sub-Committee Member and Retired Emerson Nuclear Expert



"In the United States, nuclear plant owners have committed to collective radiation exposure (CRE) goals of 55 annual person-REM for individual PWR units and 110 annual person-REM for individual BWR units by 2015."

—Electric Power Research Institute



"The average number of days for a nuclear refueling outage in the U.S. has decreased from 104 days in 1990 to 37 days in 2014."

—Nuclear Energy Institute



"U.S. utilities already make significant investments in maintaining and upgrading the current fleet of U.S. nuclear power plants to ensure safe, secure, and reliable operation throughout their 40- to 60-year lifetimes."

—U.S. Energy Information Administration







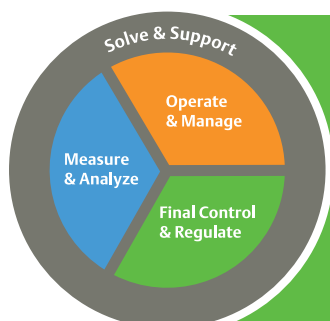
Instead of valves being on the critical path during an outage, what if you could meet the safety directives covering AOV and MOV testing programs; bring greater cost savings to operations; and help your people be more efficient?

The QUIKLOOK 3-FS valve diagnostic system helps you meet safety directives while improving testing effectiveness and managing costs.



Powered by Fisher®  
FlowScanner™ software

Emerson and Teledyne Test Services have partnered to offer the QUIKLOOK 3-FS valve diagnostic system with Fisher FlowScanner software. It's an integrated system for testing your nuclear plant's air-operated valves (AOV) and motor-operated valve (MOV) assets that's reliable, accurate, easy-to-use, fast, and gives easy-to-interpret data. It allows you to significantly reduce the test time from setup to finish, and therefore helps manage and support reduction in your cost of compliance in testing, safety, and efficiency.



Working with a trusted advisor is a key factor in being able to operate a safe and reliable plant. Emerson provides you with highly reliable final control technologies and Lifecycle Services to help you take care of your process with certainty. The QUIKLOOK 3-FS valve diagnostic system provides a unique level of value to optimize your operational goals while meeting testing and compliance requirements.

Control Valves • Actuation • Regulators and Relief Valves • Valve Instrumentation and Accessories • Isolation Valves







“The alignment of Emerson, Teledyne, Emerson local business partners, and Fisher Lifecycle Services was a big item for us. It’s a combination of software, hardware, expertise, and local support that’s hard to beat.” –AOV Program Manager, Prominent Utility in the Southeast U.S.

## Keep up with industry regulations.

“This partnership supports the need to ensure nuclear regulatory standards are met as AOV and MOV testing requirements evolve.” –Steve Zinda, Novaspect, An Emerson Local Business Partner

Safety ► p5

## Don’t let a valve system hold back your productivity.

“Teledyne and Emerson joint teams will continue to look for ways to improve testing efficiencies and can implement those changes quickly and seamlessly.” –Roger Masson, Teledyne Test Services Vice President and General Manager

Efficiency ► p9

## Save costs by performing valve tests faster.

“Customers will spend less for compliance because the QUIKLOOK 3-FS system connects quickly, performs tests faster, and gets to understandable, actionable results faster.” –Phil Nelson, Emerson Product Engineer

Cost Reduction ► p7





## Meet valve SAFETY testing and compliance regulations.

Safety is a constant concern, especially for safety-significant AOVs and MOVs in nuclear plants. Mandatory ASME Appendix 4 initiatives defined by the Nuclear Regulatory Commission are likely to be an international issue and could increase the need for diagnostic testing. Plus, reaching as low as reasonably achievable (ALARA) initiatives are always top of mind. The QUIKLOOK 3-FS valve diagnostic system helps you meet Appendix 4, significantly reducing exposure for workers, offers remote operation capability, and uses quick connect fixtures.

### What's your challenge?



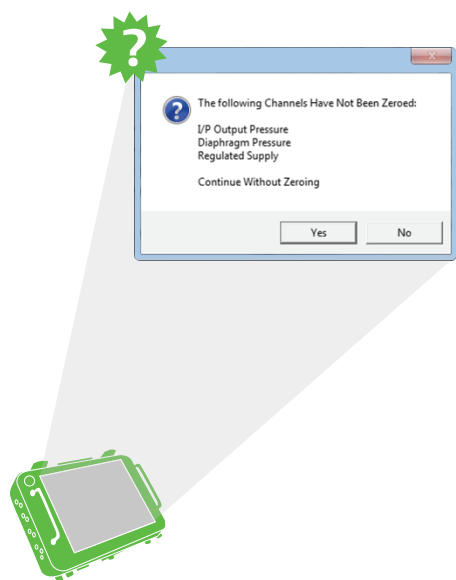
"ASME Appendix 4 will come sooner than 2020. Plants will need to organize and address it starting in 2016. It will require more valves to be tested and add more testing requirements." –Bill Fitzgerald, Appendix 4 Board Member and Retired Emerson Nuclear Expert



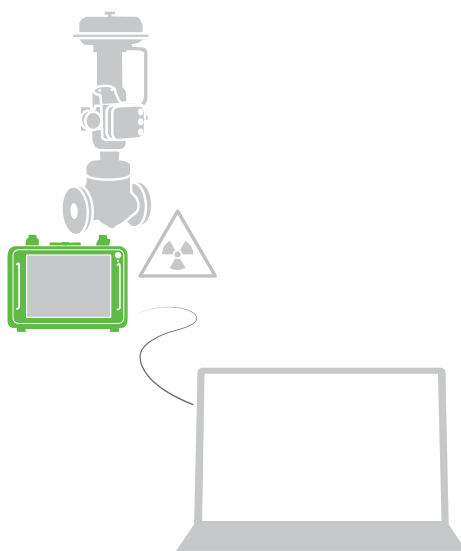
### What's your opportunity?

If you find a valve with a safety margin issue, the Emerson-Teledyne partnership can suggest ways to hit the target percentage, likely without major installed hardware changes. With our valve expertise, we know easy modifications that help address margin issues—and don't require actuator change-outs.

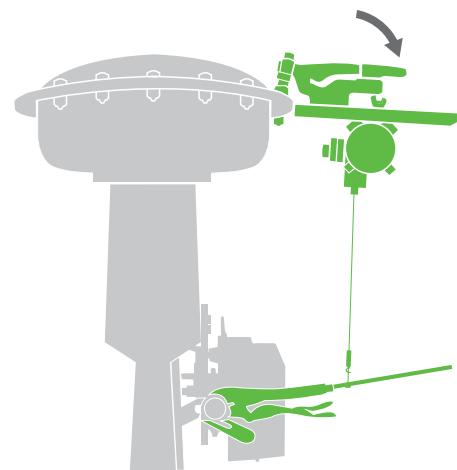
## Reduce ALARA exposure for employees



**Faster Test Time** from start to finish with automated test setup import, drop-down menus, pop-up tips, and color-coded cables for less re-work and to reduce human error.

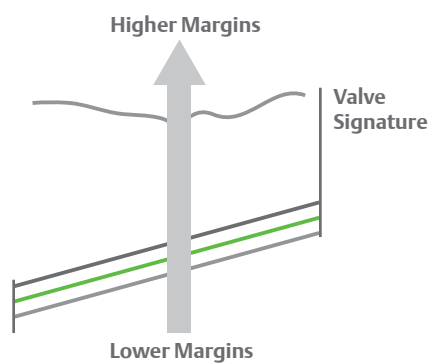


**Remotely Operate** the data acquisition system from a lower dose, lower temperature area for enhanced test operator safety and comfort.

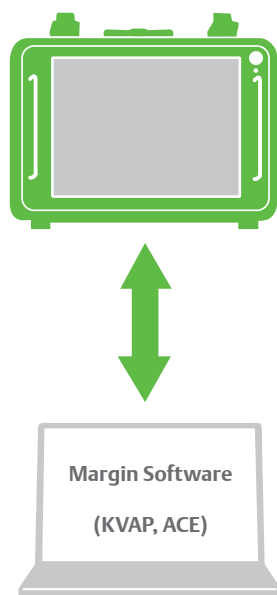


**Quick Connect Fixtures** allow for faster hookup to the valve by using one motion to attach travel transducers that utilize plug-and-play technology.

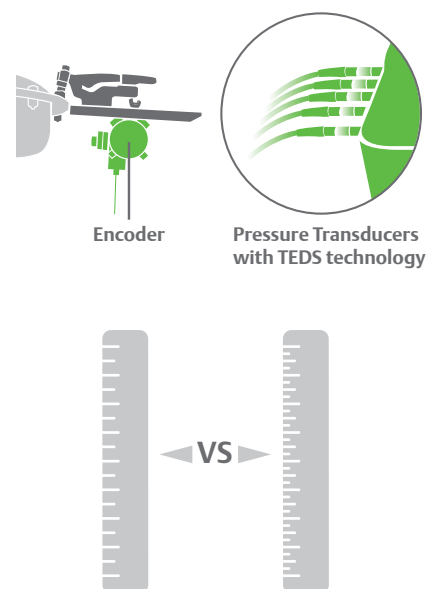
## Meet Appendix 4 requirements for safety margins



**Corrective Action Recommendations** are available when you find a valve with a margin issue, so an actuator change is not your only option.



**Direct Interface with Margin Software** allows the direct import of test results so margins can be calculated faster, saving you time.



**Better Measurement Accuracy** with valve sensors means you get higher, truer margins and more valves that pass.



For more information, visit [EmersonProcess.com/QUIKLOOK](http://EmersonProcess.com/QUIKLOOK)







## Find cost SAVINGS during outages.

Every plant is under cost pressure. You have to maintain safety but don't have a blank check to do that. There's pressure to run every day at 100% or you're costing your company money. When an outage does take place, the work needs to get done correctly. There are demands to shorten the outage window so there's less expense and less downtime. Time is money and outages are an impediment to operating power and generating revenue. The QUIKLOOK 3-FS valve diagnostic system helps you decrease outage duration and ensure accurate diagnosis for optimal valve operation, resulting in cost savings during outages.

### What's your challenge?



The average number of days for a nuclear refueling outage in the U.S. has decreased from 104 days in 1990 to 37 days in 2014. –Nuclear Energy Institute

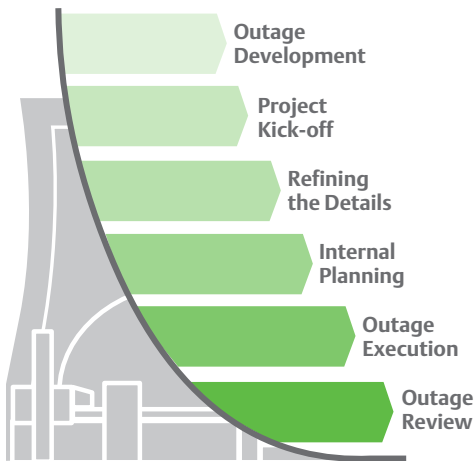
### What's your opportunity?



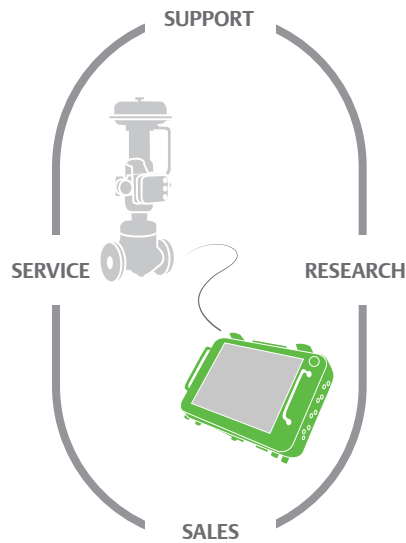
Get a total solution from a trusted advisor that is an expert in valve test systems. Emerson can perform valve diagnostic tests and repairs if you don't have in-house expertise to do it. We are invested in your success.



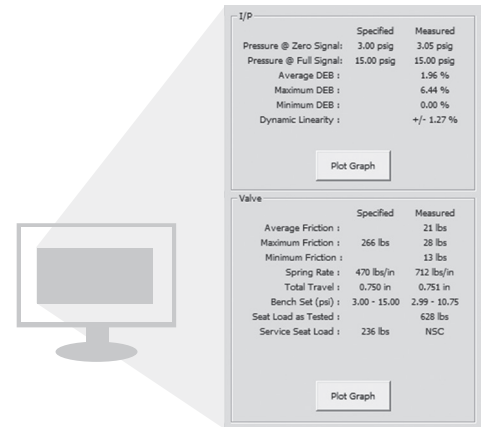
## Decrease outage duration



**Six-Step Outage Process** uses safety trained and certified Emerson technicians that provide comprehensive outage planning and repair the valve, actuator, and instrument as a unit.

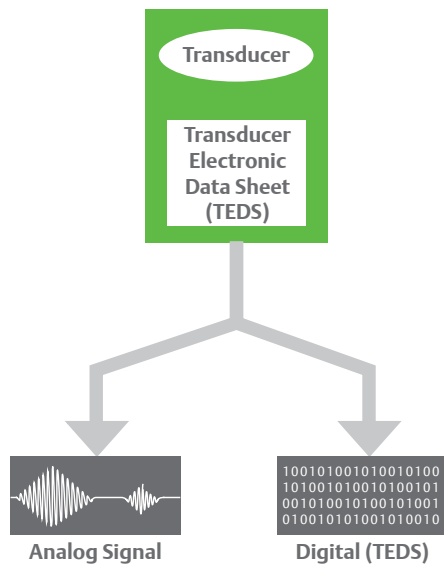


**Valve and Testing Expertise** is available with the partnership of Emerson and Teledyne Test Services so you receive corrective action recommendations if a valve doesn't meet performance standards.

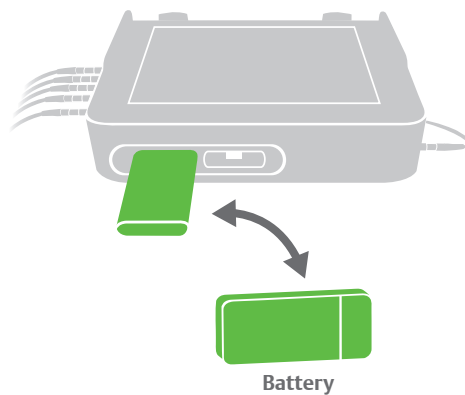


**Automated Test Criteria** provide a way to define acceptable ranges for critical test variables for added test efficiency, letting you know if a valve falls within the range for a particular parameter.

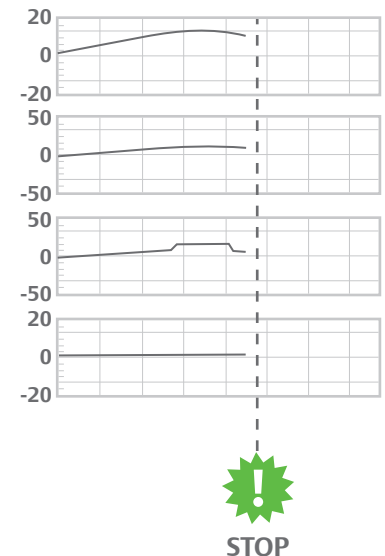
## Ensure accurate tests



**Plug-and-Play Sensors** utilize embedded memory chips to recognize and automatically set the sensor range and sensitivity, reducing the need for user input.



**Hot Swappable Batteries** can be changed mid-test, eliminating the need for re-testing.



**Real-Time Data Viewing** allows you to stop a test with bad data, so time isn't wasted finishing a test that is not good.



For more information, visit [EmersonProcess.com/QUIKLOOK](http://EmersonProcess.com/QUIKLOOK)





## Allow your team to be more **PRODUCTIVE.**

In order to not fall behind with technology, nuclear plants update their operating platform and install new valves. But when your valve diagnostic system doesn't sync with those new technologies, there's a problem. A diagnostic system may not be compatible with the new operating platform or new valves aren't reflected in the system. The QUICKLOOK 3-FS valve diagnostic system is different. You can keep it current and take advantage of the latest testing technologies with no-cost product updates. It's also easier for your personnel to use with intuitive menus and pop-up tips to increase their efficiency and reduce errors.

### What's your challenge?



U.S. utilities already make significant investments in maintaining and upgrading the current fleet of U.S. nuclear power plants to ensure safe, secure, and reliable operation throughout their 40- to 60-year lifetimes. –U.S. Energy Information Administration

### What's your opportunity?



With a more intuitive and easy-to-use valve diagnostic system, your team can do their job more efficiently and boost productivity.



## Keep the system up-to-date



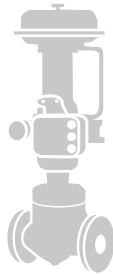
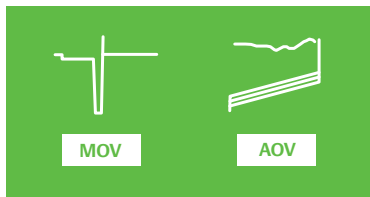
Free regular product  
update notifications



QUIKLOOK 3-FS version...

**Regular Product Updates** are available on a frequent basis at no charge, so there's no need for additional spend to pay for updates.

## Leverage leading valve testing technologies



**Common Platform for AOV and MOV Testing** fully leverages the advantages of FlowScanner software on AOVs, and QUIKLOOK software on MOVs.

Current  
Sensing Clamp



Travel Encoder



Pressure Sensor

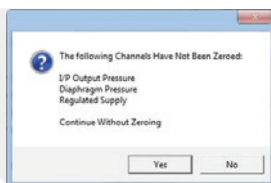


Strain Gauge



**Additional Measurement Sensor Technologies** are supported for testing flexibility such as strain gauges, current sensing clamps, pressure sensors, and digital travel encoders.

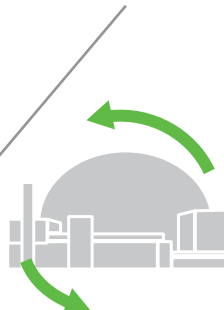
## Help make transition easier for your people



**Easier and More Intuitive Software** provides menu trees and pop-up alerts, shortening training requirements and reducing the chance for errors.



Training



Operate and Maintain

**Training and After Sales Support** help you manage changes and updates to the QUIKLOOK 3-FS system.



FlowScanner  
6000



QUIKLOOK 3-FS

**Test Data Converter** avoids stranded data by converting Fisher FlowScanner 6000 tests to the QUIKLOOK 3-FS data format and the reverse.



For more information, visit [EmersonProcess.com/QUIKLOOK](http://EmersonProcess.com/QUIKLOOK)



Achieve greater efficiency, safety,  
and cost reductions when testing  
safety-significant valves.



With its accuracy, speed, and easy-to-use features, the  
QUIKLOOK 3-FS valve diagnostic system helps you reduce  
your cost of compliance for testing AOV and MOV assets.

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Dubai, United Arab Emirates  
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