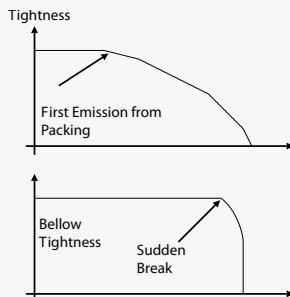


# Foxboro® Fugitive Emission Monitoring

## Valve Positioners

### Summary

The Advanced (AD) and Premium (PD) diagnostics for SRD Series Positioners, together with the FDT/DTM based software offer a full range of tools for predictive maintenance of the complete valve.



### Business Value

With more than 50 years experience in valve positioners, Foxboro offers the most complete line of instrumentation available from pneumatic and analog devices to the most advanced smart positioners with Hart®, Profibus or Fieldbus communication. The proven reliability and robustness of the Foxboro positioners helps to improve process performance, providing predictive maintenance and Advanced Diagnostics.

### Benefits

- Reduced exposure of personnel to a potentially deadly chemical
- Immediate and remote (DCS) Alarm for quick intervention
- Easy implementation on existing critical valves, without additional cabling



### The 871FT and 871 Sensors

Fugitive Emission Monitoring from Foxboro® is dedicated to ensure continued monitoring of valve packing leakage.

In conjunction with a pressure switch gauge, the positioner (SRD991 or SRD960) is able to detect any damaging leakage especially for critical medium for people and the environment.

### About Foxboro Valve Positioners

Foxboro has been producing Control valve positioners at the highest quality since 1961 and offers the widest range of valve positioners, from pneumatic and analog devices to the most advanced smart positioners to work alongside any application in any industry. Certified to manufacture valve positioners with ATEX, FM, CSA, INMETRO, GOST or NEPSI certification, Foxboro provides solutions for HART, FF H1, Profibus PA communication and SIL3 certified positioners for applications with safety valves. Based on the FDT/DTM standard, the Advanced and Premium diagnostics for SRD Series Positioners offers a full range of tools for predictive maintenance of the complete valve, such as Valve Footprint, Cycles Counters, Position History and Online friction monitoring. These features enable a real diagnostic view of the complete valve, for optimized predictive maintenance.

## Technical Challenges

Advanced Diagnostics offer a very powerful tool regarding predictive maintenance on the control valve packing. The Cycle and Stroke counters give a relatively good idea of the status of the packing, since the consumption of the packing is correlated to its use. After a consequential amount of movement, the packing starts to lose its tightness, which leads to the first emissions in the atmosphere. In case of very dangerous mediums emissions for people and the environment, a metallic bellows seal is used to keep a constant maximum tightness of the valve over time.

However, these metallic bellows seals have a tendency, after a certain number of cycles, of cracks appearing in the bellows which can cause brutal rupture. It happens with no warning and the consequences can be extremely damaging. In this case, the cycle counter and a regular checkup of the bellows are not enough to prevent a leakage of the chemical into the atmosphere. That is why we designed a solution that immediately detects the leakage and avoids risk.



## The Foxboro Solution

### Fugitive Emission Monitoring

Foxboro has developed a unique solution based on a pressure switch gauge, measuring the pressure directly in the bonnet. The pressure switch gauge is connected to the positioner through a binary input. As soon as the pressure increases in the bonnet due to a failure in the bellows, the pressure gauge switches a binary input in the positioner to indicate an alarm.

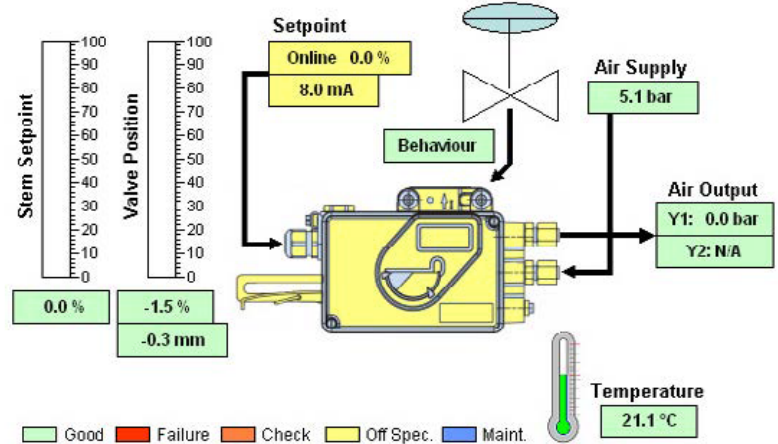
## Results

We provide the safest solution on the market applied to bellows valves.

The reading and the analysis of the positioner data and alarms are safely done from the control room thanks to the DTM. The backup can be achieved automatically.

The positioner sends an alert to the Control Room through communication (Hart, Profibus PA or Fieldbus H1) and if configured can automatically drive the valve to a failsafe position.

This solution does not require additional power supply or cabling back to the control room since the pressure switch gauge loop is supplied by the positioner itself. The solution is Intrinsically Safe (SRD991) and Flameproof/Explosion proof (SRD960) certified and it has been patented by Foxboro US 6,112,638.



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