

## Low Air Supply Pressure (<35PSI) Applications

### SUMMARY:

When the available air supply pressure to the actuator is 35 psi or below, prior to Easytork, the only suitable options was the spring and diaphragm actuator. Spring-return actuators, such as rack and pinions or scotch yokes, require a minimum of 40 psi and are therefore unsuitable. Easytork actuators, however, can operate and fail-safe at air supply pressures of 30 psi or below.

Applications for low air supply pressure include, but are not limited to:

- Actuators connected to a P/P controller, as most P/P controllers have a maximum rating of 35 psi.
- Remote locations, such as oil and gas tank batteries.

While increasing the air supply pressure is possible, this is often impractical as it requires altering the end-user's air system design. The ideal solution is to use an equivalent low-pressure actuator that can be easily integrated without modification.

### CHALLENGE:

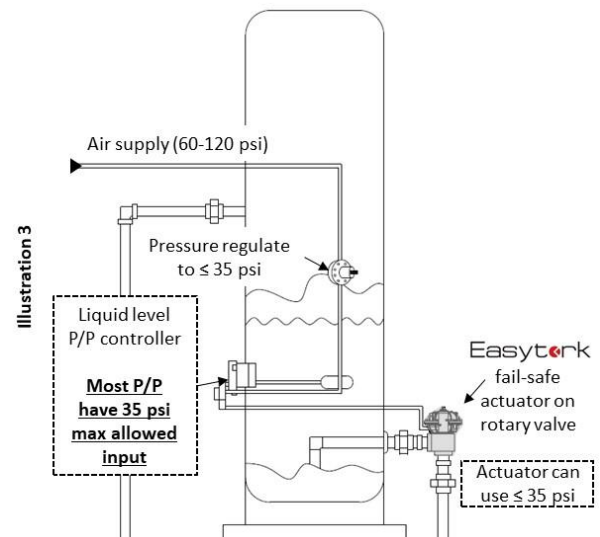
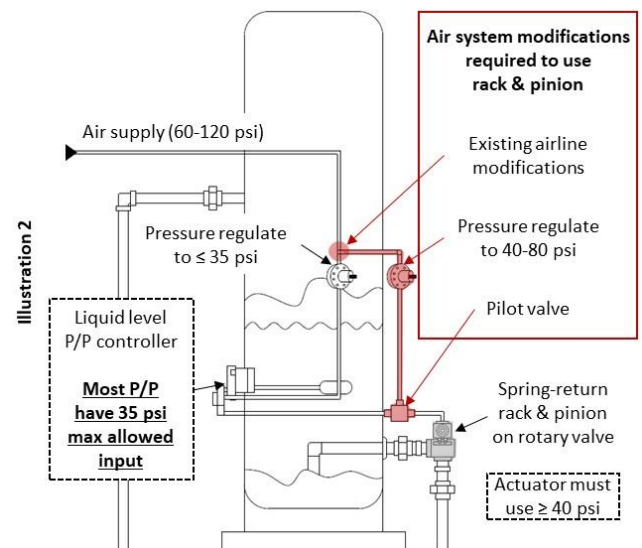
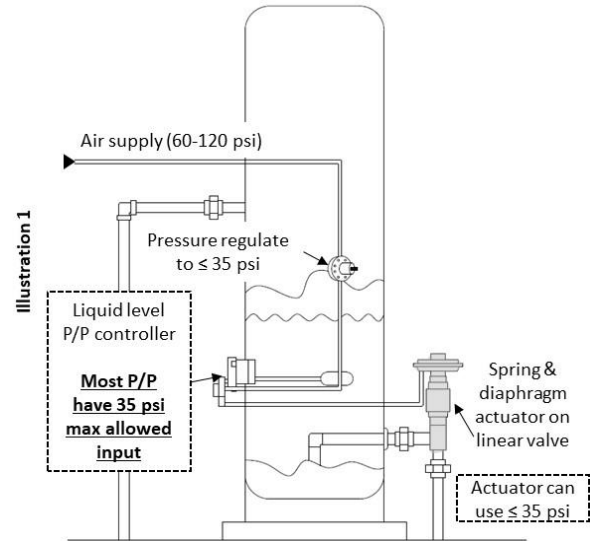
An oil and gas producer in the Permian Basin sought to replace their automated linear valves with automated rotary valves on their tank batteries (separators). While the rotary valve offers superior performance and value, the main adoption challenge was the actuator.

As shown in Illustration 1, the existing spring and diaphragm actuator is connected to a P/P level controller with a maximum rating of 35 psi. To use the rotary valve with a spring-return rack and pinion actuator, the cost-benefit analysis becomes highly prohibitive due to the necessary changes to the air system, as depicted in Illustration 2.

### SOLUTION:

As shown in Illustration 3, utilizing a low-pressure Easytork actuator required no system changes. The actuator seamlessly integrated with the existing air supply, which in this case was natural gas.

The Easytork actuator is significantly smaller and lighter than equivalent spring and diaphragm actuators. This size and weight reduction minimizes the need for additional support structures and reduces labor requirements. Easytork has made it easy for end-users to adopt a wide variety of automated rotary valve solutions.



## EASYTORK'S LOW-PRESSURE SOLUTION PORTFOLIO:

### ON/OFF

General principle:

On/off electrical signal

≤ 35 psi air supply



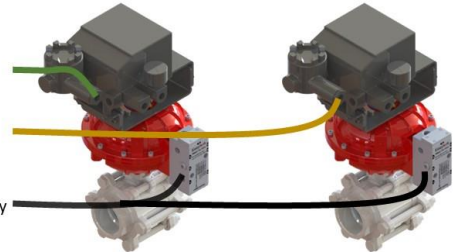
- Actuates with air supply + signal
- Fail-safes without air supply and/or signal

### THROTTLING

General principle:

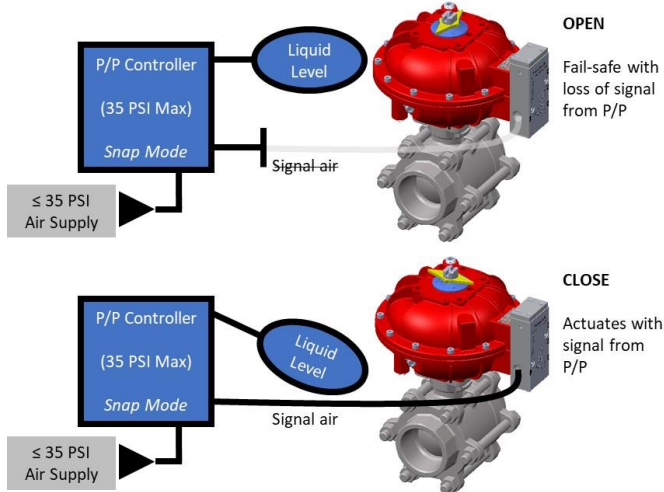
Signal air  
3-15 or 6-30 psi  
Electrical signal  
4-20 mA

≤ 35 psi air supply



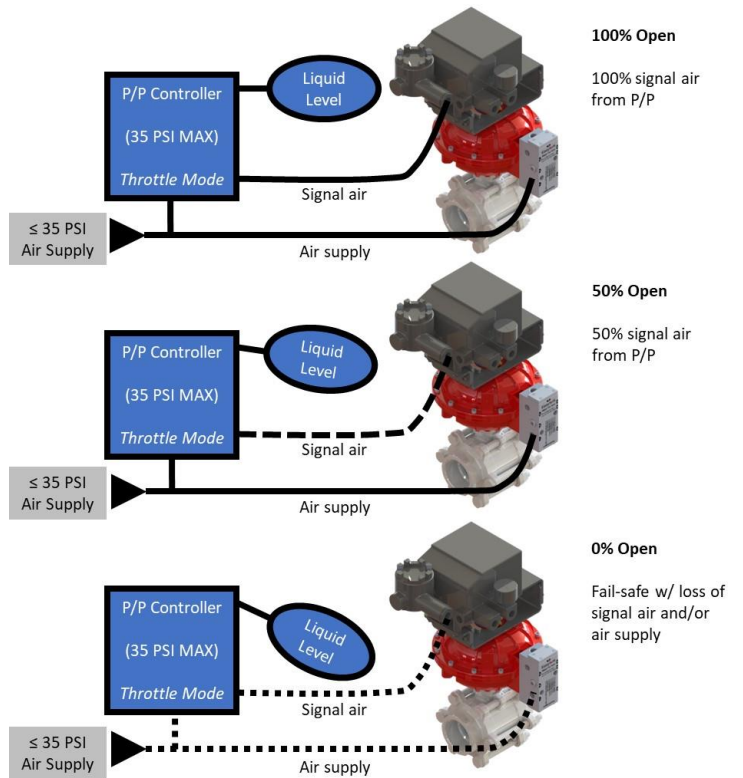
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Example of setup with P/P controller:



Note:  
Field reversible  
fail-open or fail-close

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