



UNLOCKING THE POWER OF INTEGRATED VALVE MONITORING AND CONTROL

THE QUANTUM SERIES

WESTLOCK
CONTROLS

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INTRODUCTION

In hazardous industries, conventional valve package assembly methods come with several limitations that can significantly impact efficiency and increase costs. One major challenge is the costly integration requirements, including extensive wiring and mounting procedures. Managing multiple certifications for various components adds further complexity, increasing the risk of human error during both assembly and installation. These factors often lead to prolonged installation and commissioning times, causing delays in operations.

Additionally, the maintenance and troubleshooting of conventional systems can be complicated, requiring more time and specialized knowledge. Fragmented components and systems result in a higher total cost of ownership, as lower-quality solenoid valves introduce more potential points of failure. These combined limitations underscore the need for a more streamlined, efficient valve monitoring and control solution.



The Westlock Quantum series offers a powerful, all-in-one solution that combines both valve monitoring and control, revolutionizing automation processes. Engineered for efficiency, Quantum solutions simplify valve operations by integrating position sensors and low-power solenoid valves into a single, compact unit.

The Falcon series pre-wired solenoid valves offer a range of materials, coil voltages, and configurations, providing enhanced flexibility for Quantum solutions while simplifying setup. These ultra-reliable solenoid valves come with a built-in spool position indicator, allowing for easy, intuitive field diagnostics. The intelligent design of the Falcon solenoid accelerates commissioning and optimizes the control of pneumatic actuators, ensuring faster and more efficient valve automation.



INTEGRATION SAVINGS

With the Quantum series, Westlock Controls offers a game-changing solution that simplifies valve monitoring and control through ease of integration—delivering up to 20% upfront cost savings.

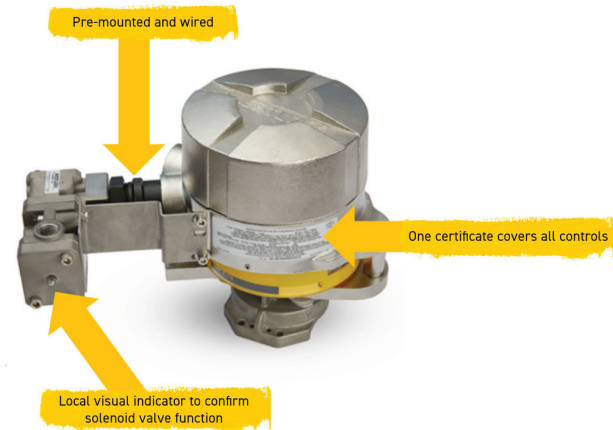
The Quantum package comes pre-wired with the solenoid valve already connected to the terminal strip. This not only streamlines the wiring process but also drastically reduces installation time, eliminating the complexity of managing separate components.

Thanks to its design, Quantum integrates both the solenoid valve and feedback sensors or switches into a single compact unit. This means fewer labor hours are needed during installation, as all components come pre-mounted, offering single-point wiring for quicker setup and improved operational efficiency.

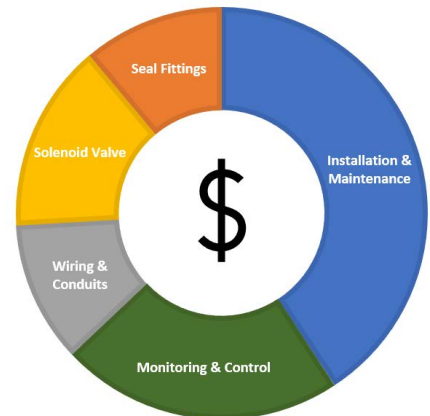
Quantum solutions simplify compliance by providing a unified hazardous area certification that covers both the solenoid and feedback devices. This removes the hassle of managing multiple certifications, making integration smoother and faster.

With its pre-assembled, integrated package, Quantum accelerates project completion by reducing the time required for installation and commissioning. This not only speeds up system deployment but also minimizes downtime, allowing for faster, more efficient operations from the start.

The ease of integration provided by Quantum not only reduces costs upfront but also offers long-term benefits through operational efficiency and simplified maintenance.



Conventional Valves



Quantum



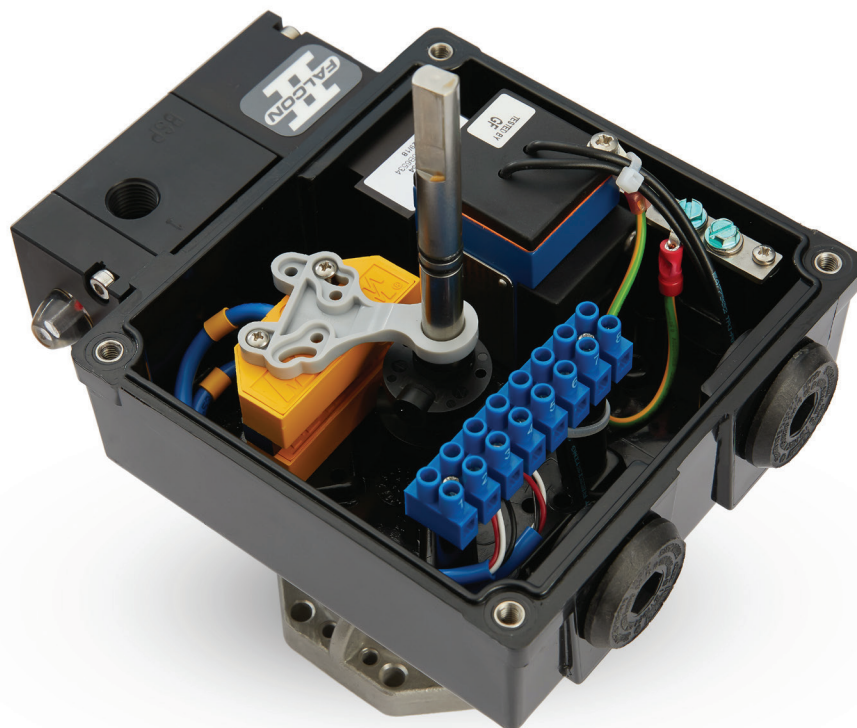
RELIABILITY

Quantum solutions with Falcon solenoid valves excel in reliability, making the solution the go-to choice for valve monitoring and control in demanding environments.

The Quantum series is versatile enough for a range of applications, with the option to meet SIL 3 safety standards for use in Safety Instrumented Systems (SIS). This ensures compliance with the most rigorous safety protocols in hazardous areas.

Quantum's robust design is built to withstand tough industrial conditions. It features anodized aluminum and 316 stainless steel for all wetted parts, ensuring long-lasting durability and corrosion resistance in harsh environments.

Quantum solutions are designed to deliver reliable performance in a wide range of temperatures, making them suitable for demanding environments. For General-Purpose and Non-Incendive applications, they can operate at valve body temperatures from -20°C to $+75^{\circ}\text{C}$, while Intrinsically Safe models extend that range up to $+85^{\circ}\text{C}$. Explosionproof models are built to withstand even harsher conditions, with temperatures as low as -40°C to $+60^{\circ}\text{C}$ with low-temperature coils and seals. This rugged resilience ensures consistent, safe performance, even in extreme temperature variations.





The innovative exhaust port design on Falcon solenoids directs airflow to the side, minimizing potential points of failure and optimizing the overall reliability of the valve package. This feature also minimizes the risk of port blockage from external debris such as water, pollen, and other contaminants, reducing maintenance needs and enhancing operational consistency.

The unique spool indicator on Falcon solenoids is protected by a rugged design that prevents incidental contact damage, further boosting system reliability by preventing potential leaks and maintaining the integrity of the entire assembly.

Quantum's reliability ensures safety, durability, and long-term performance, making it the dependable choice for critical control valve applications in the harshest industrial settings.

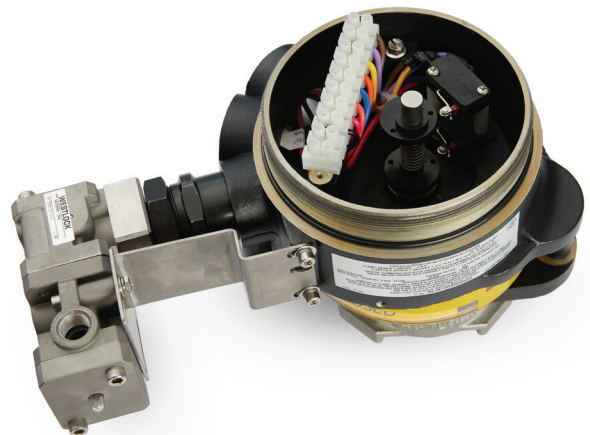
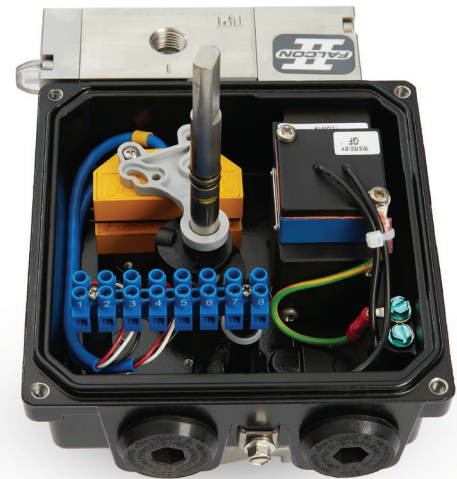
PERFORMANCE & VERSATILITY

Quantum shines in performance and versatility, making it an adaptable solution for a wide range of valve monitoring and control applications.

The Quantum valve body offers enhanced flow capacity (Cv), ranging from 1.4 to 4.3 for aluminum and 1.4 to 3.5 for stainless steel models, making it capable of automating a wider range of actuators. This increased versatility reduces the need for additional inventory, streamlining operations and allowing for more flexible applications across diverse environments.

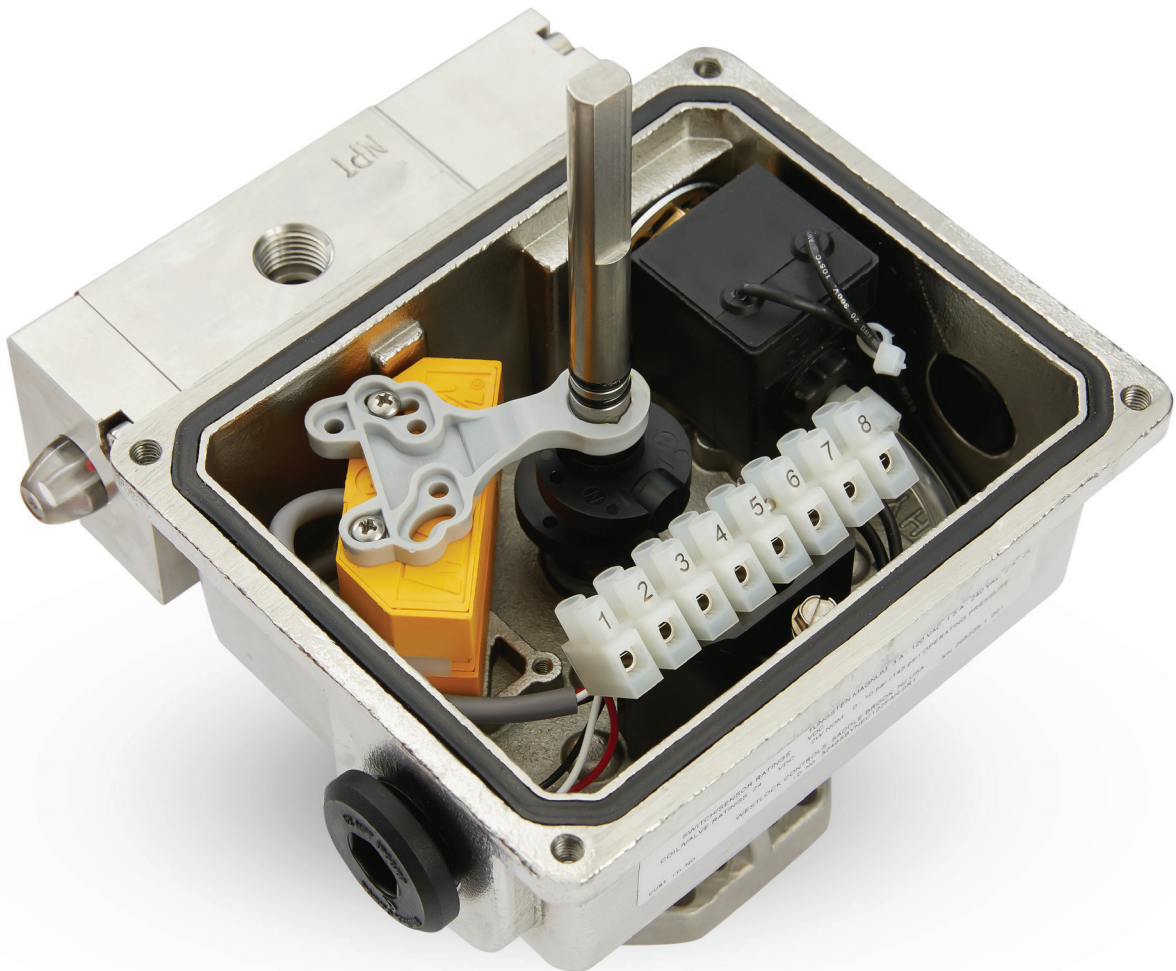
Quantum's reduced pilot pressure coil enables efficient operation at lower supply pressures without requiring an external pilot. This optimizes pressure use, enhancing both efficiency and operational flexibility across different systems.

Built for demanding industrial environments, Quantum delivers dependable performance even in highcycle applications, ensuring durability and reliability through intense operational demands.



Quantum solutions offer flexibility in actuation with both single and dual coil options, as well as failcenter designs for fail-safe applications. The stand-alone versions cover a wide range of materials, and manual and locking overrides provide additional control options for enhanced functionality.

Quantum's exceptional performance and versatility make an indispensable solution for valve automation across industries, ensuring high adaptability and operational excellence.



TROUBLESHOOTING & MAINTENANCE

In today's valve industry, operators often face significant challenges due to the lack of real-time field diagnostics. Many systems still rely on manual inspections or reactive maintenance, leaving operators with limited visibility into the status of their valve systems. Without integrated diagnostic tools, identifying performance issues, or detecting early signs of failure becomes difficult, leading to unexpected breakdowns, prolonged downtime, and costly repairs.

The Quantum series boosts operational efficiency with user-friendly troubleshooting features, designed to simplify maintenance and reduce downtime. Failed components can be replaced without disturbing other parts of the unit. For instance, if a coil fails, it can be replaced without touching the pneumatic valve body or disconnecting airlines. Similarly, if the valve body fails, it can be swapped out without opening the switchbox or handling any wiring. *Please note, these benefits do not apply to the Explosionproof series due to the eliminator feature.

Operators can easily monitor the status of the valve at any time, allowing for proactive maintenance. This visibility ensures that potential issues can be identified and addressed swiftly, leading to faster response times and more effective maintenance schedules.

With Quantum, an extra level of diagnostics is known through a red indicator built into the Falcon solenoid valve to show spool position. When energized, the airflow shifts the spool & the indicator turns red. This enhanced visibility streamlines troubleshooting and maintenance, enabling quick identification and local diagnostics, thus minimizing downtime.

With Quantum's troubleshooting enhancements, plant operators can maintain high efficiency, keep equipment running smoothly, and significantly reduce both downtime and maintenance costs.



CONCLUSION

The Westlock Quantum series is a comprehensive solution that revolutionizes valve monitoring and control by addressing the inefficiencies of conventional valve systems. Its all-in-one design streamlines integration, reducing upfront costs and installation time by combining pre-wired solenoid valves and position sensors. Engineered for demanding environments, Quantum solutions deliver unmatched reliability, with robust materials, wide temperature range capabilities, and resilient components. The increased flow capacity and versatile configurations ensure flexibility across a broad range of applications, while the built-in diagnostic tools simplify troubleshooting and minimize downtime. Quantum not only enhances operational efficiency but also provides long-term cost savings, making it the optimal choice for industries seeking dependable, high-performance valve automation solutions.

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