



Seven Key Considerations for Choosing the Right Hydraulic Control System

A Guide for Elevator Contractors

The world of hydraulic control systems is changing

The elevator industry is undergoing a significant shift. The seasoned mechanics who have spent decades mastering hydraulic control systems are retiring, taking with them the wealth of tribal knowledge that has traditionally guided installation, troubleshooting and maintenance.

At the same time, a new generation of elevator technicians is stepping in—one with a different approach to problem-solving. These younger mechanics often have less hands-on experience with elevators and lack the institutional knowledge of their predecessors. However, they bring a strong familiarity with mobile technology, digital tools, and app-based interfaces, changing the way systems are installed, serviced and maintained.

This generational transition is happening alongside heightened margin pressures. Elevator contractors must optimize every hour spent on a job—whether installing a new hydraulic control system, troubleshooting an issue, performing routine servicing or modernizing outdated equipment. Time is money, and inefficiencies in installation or maintenance can quickly erode profitability.

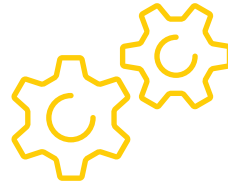
To keep pace with these industry shifts, elevator contractors need modern hydraulic control systems designed for today's workforce—solutions that simplify installation, streamline configuration, enable remote monitoring, and facilitate efficient troubleshooting. Choosing the right system is critical. **This whitepaper outlines the seven key considerations contractors must evaluate to ensure they invest in the best hydraulic control system for their needs.**



1 Installation



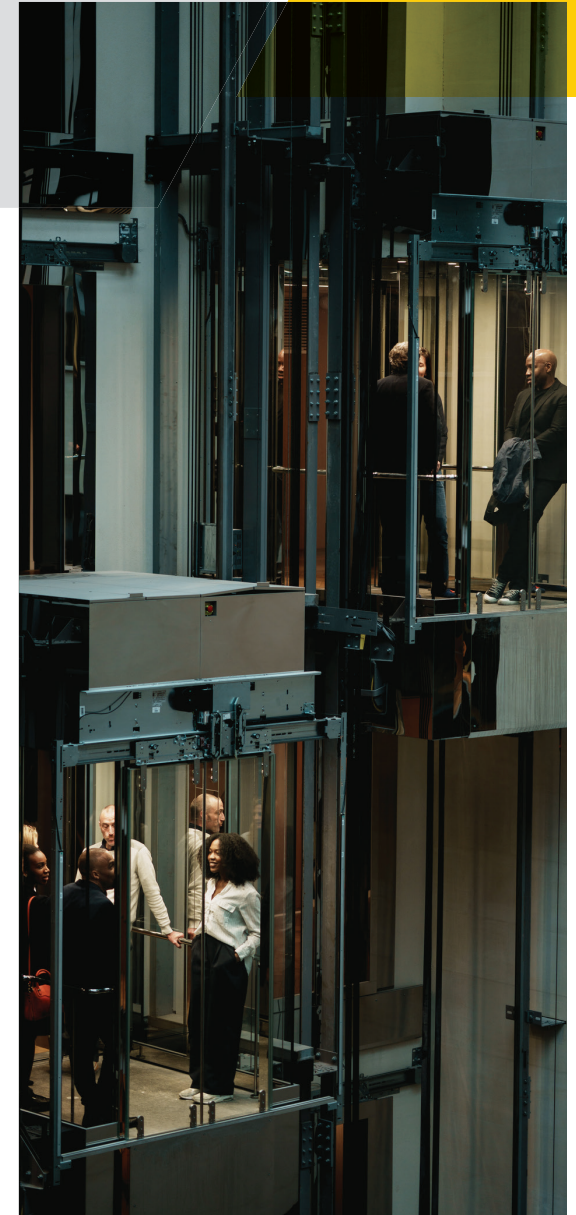
Time is a critical factor in every elevator installation project, and hydraulic control systems are no exception. One of the biggest contributors to extended installation times is the complexity of field wiring. Traditional hydraulic controllers require multiple field wire connections, each of which must be properly installed, tested and verified. The more wires involved, the greater the risk of installation errors—miswiring, incorrect terminations, or faulty connections—which slows down the entire process and leads to costly troubleshooting.



To reduce installation times and minimize errors, elevator contractors should look for hydraulic control systems that simplify wiring. Controllers with fewer field wire connections streamline installation, allowing mechanics to complete projects faster and with greater confidence in the system's reliability.



One example of a system designed with installation efficiency in mind is the Nexus™ hydraulic control system from Vantage. Engineered to minimize wiring complexity, Nexus™ reduces the number of field connections required, speeding up installation while also lowering the likelihood of wiring-related errors. By choosing a system with a simplified wiring approach, contractors can complete jobs more quickly, reduce labor costs, and ensure a smoother transition from installation to operation.



2 Configurability

Every elevator installation comes with its own set of challenges. Site conditions, building requirements, and unexpected obstacles can all necessitate last-minute adjustments to a hydraulic control system. In these cases, a fully configurable controller is essential—one that allows mechanics to make field modifications without requiring software changes or custom programming.

Traditional controllers often require specific software updates or reprogramming to accommodate modifications. This can be time-consuming and frustrating, especially when working under tight deadlines. A more efficient approach is to use a controller that provides flexibility in the field, enabling adjustments through onboard settings rather than requiring external software modifications.

By choosing a controller with built-in configurability, elevator contractors adapt to on-site requirements more quickly, reducing downtime and eliminating the need for specialized technical support. This flexibility ensures a smoother installation process and minimizes delays caused by unexpected changes.



Configurability is more than just a convenience—it's a necessity.

Contractors looking for maximum efficiency should prioritize controllers that support quick, software-free modifications, enabling them to complete installations faster and with greater precision.



TAKING CONFIGURATION TO THE NEXT LEFT

A well-designed hydraulic controller should offer a range of adjustable parameters—such as feature sets, leveling adjustments, and door operation configurations—without requiring a laptop or software update. This not only makes field modifications easier but also enhances long-term serviceability, allowing mechanics to fine-tune system performance efficiently throughout the elevator's lifecycle.

3 Troubleshooting

No matter how well a hydraulic control system is installed, issues arise that require troubleshooting. When that happens, mechanics need a control system that makes it easy to diagnose problems and restore service quickly. For today's workforce—many of whom are more comfortable with digital interfaces than traditional diagnostic tools—having an intuitive, user-friendly interface is critical.



The Nexus™ hydraulic control system from Vantage, for example, is designed with this new generation of mechanics in mind. Its 7-inch touchscreen display presents system information clearly, making it easier to identify faults, understand system status, and troubleshoot issues efficiently. Instead of relying on cryptic error codes or complex manuals, mechanics can access real-time diagnostics, step-by-step guidance, and intuitive navigation—all from the controller's touchscreen.

A well-designed user interface significantly reduces downtime by enabling faster problem resolution. Instead of spending valuable time searching for manuals or calling for technical support, mechanics can quickly interpret system data, make informed decisions, and restore service with minimal disruption.

In an industry where every minute counts, having a controller that simplifies troubleshooting makes a major difference. The Nexus™ system exemplifies this approach, offering a modern, touchscreen-based diagnostic tool that empowers mechanics to work more efficiently and effectively. For elevator contractors looking to improve service response times and reduce costly callbacks, investing in a control system with an intuitive troubleshooting interface is a smart choice.



4 Safety

Safety is the foundation of every elevator system, and hydraulic control systems must be designed with robust safety mechanisms to protect both passengers and mechanics. One of the most critical safety features a controller should include is Independent Safety Monitoring Circuits for Electrical Protective Devices (EPDs).

EPDs include door interlocks, emergency stop circuits, pit switches, and other safety-critical components that detect malfunctions and prevent unsafe operation. Traditional hydraulic controllers often integrate safety monitoring within the main control system. But this setup can create risks if a failure occurs within the controller itself. Independent Safety Monitoring Circuits (ISMCs) provide an extra layer of protection by continuously verifying the status of EPDs, functioning separately from the main control logic.

How ISMCs Improve Safety



Constantly monitor the state of safety devices, detecting faults in real-time.

Prevent unsafe conditions by immediately triggering a stop if a critical failure is detected.



Operate independently from the main control system, ensuring safety measures remain active even if the primary controller malfunctions.

For elevator contractors, choosing a hydraulic control system with Independent Safety Monitoring Circuits for EPDs is an essential step in safeguarding passengers, mechanics and equipment. Investing in a controller with this advanced safety feature not only ensures compliance but also provides peace of mind, knowing that safety is never compromised.



5 Remote Monitoring

Traditional elevator maintenance often relies on scheduled inspections or reactive responses to issues, which leads to unplanned outages and increased operational costs. Remote monitoring transforms this approach by providing continuous oversight of elevator systems.

Remote monitoring offers elevator contractors and building managers unprecedented oversight and management capabilities. By enabling real-time data access and instant alerts, remote monitoring facilitates proactive maintenance, reduces downtime, and enhances overall system performance.



Implementing a robust remote monitoring system like Vantage Connect not only enhances operational efficiency but also aligns with modern maintenance practices that prioritize reliability, safety, and cost-effectiveness. For elevator contractors aiming to deliver superior service and maintain a competitive edge, integrating such technology into their hydraulic control systems is a strategic imperative.



One popular solution in the realm of remote monitoring is Vantage Connect, a cloud-based platform designed to empower asset management through intuitive, real-time data visualization. Key features of Vantage Connect include:

User-Friendly Interface:

Utilizing simple, color-coded graphics, users effortlessly monitor elevator performance metrics and receive instant alerts directly to their devices.

Improved Response Times:

The platform shortens trouble call response times and reduces critical events, such as unexpected shutdowns, thereby improving the overall lifecycle costs of assets.

Comprehensive Analytics:

By leveraging historical data, Vantage Connect generates detailed reports on equipment availability and performance, aiding in informed decision-making and strategic planning.

Predictive Maintenance:

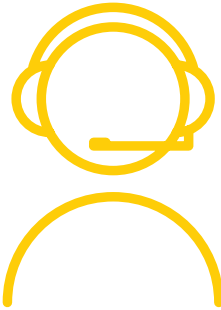
Advanced algorithms analyze real-time data to predict potential failures, allowing technicians to perform interventions before issues occur, thus minimizing unplanned downtimes.

6 Technical Support

Even the best hydraulic control system is only as good as the support behind it. When elevator contractors encounter challenges during installation, troubleshooting or maintenance, they need fast, knowledgeable, and reliable technical support to keep projects on schedule and elevators running safely. A control system backed by expert technical support means the difference between a quick resolution and costly downtime.

Hydraulic elevator systems are complex, and the professionals providing support must have deep technical expertise in both the controllers and the broader mechanics of elevator systems.

Effective support should include:



Product-Specific Knowledge – Support agents must be highly trained in the control systems they assist with, understanding the full range of installation, configuration, and troubleshooting scenarios.

Industry Experience – Representatives should have real-world experience with elevator systems, ensuring they can provide practical guidance that aligns with field conditions.

Comprehensive Troubleshooting Assistance – Whether it's diagnosing wiring issues, resolving error codes, or walking contractors through software configurations, a skilled support team should offer precise, actionable solutions.

No contractor wants to be left stranded with an installation or repair problem they can't resolve. A hydraulic control system should come with responsive, expert technical support that helps contractors get the job done efficiently—whether over the phone, online, or in person. Investing in a system backed by a highly skilled support team ensures fewer delays, reduced labor costs, and increased confidence in every installation and service call.



CONSIDERATION 7 Total Cost of Ownership

Purchasing a hydraulic control system is a significant investment, but the true cost of ownership extends far beyond the initial price tag. Contractors must consider the long-term financial impact of their decision, factoring in costs associated with installation, maintenance, troubleshooting and parts replacement. A lower upfront price may seem appealing, but if a system leads to excessive labor costs or frequent repairs, it can quickly become a costly liability.

Key Cost Factors to Consider



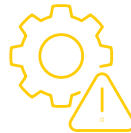
RELIABILITY AND DURABILITY

A high-quality hydraulic control system should be designed for long-term performance, minimizing the risk of failures and reducing the need for expensive emergency repairs.



LABOR COSTS FOR MAINTENANCE

Frequent or complicated maintenance procedures drive up labor costs. A well-designed system should be easy to service, with accessible components and intuitive diagnostics.



LABOR COSTS FOR TROUBLESHOOTING

When issues arise, mechanics should be able to quickly diagnose and resolve problems without spending excessive hours tracing wiring issues, deciphering error codes, or waiting for technical support.



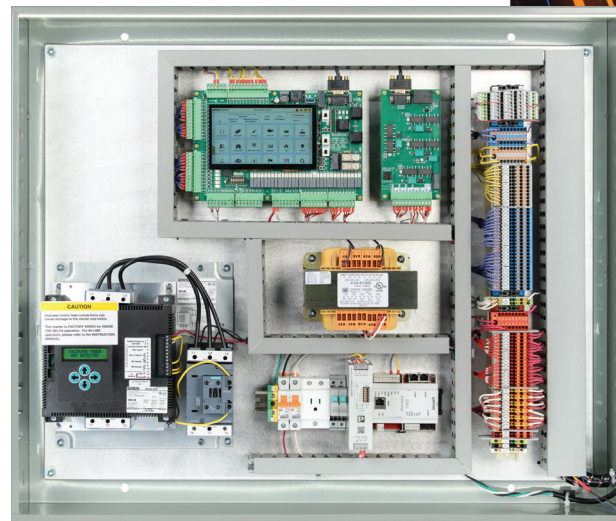
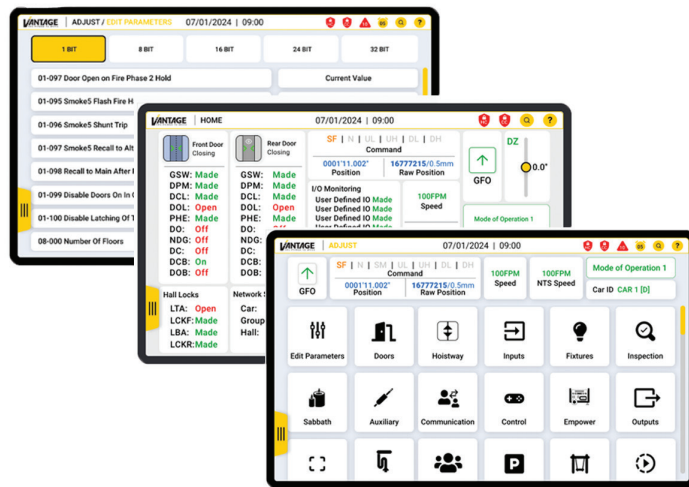
PARTS AND COMPONENT REPLACEMENT

Some controllers rely on proprietary components that are expensive or difficult to source. A system with readily available, cost-effective parts ensures lower repair expenses over time.

By choosing a control system designed for efficiency, ease of maintenance, and long-term durability, contractors can significantly reduce their total cost of ownership, leading to higher profitability and greater operational efficiency over the lifespan of the elevator.



The Nexus™ hydraulic control system offers unparalleled install ability and adjustments. Designed and built based on the voice of Vantage's broad customer base, Nexus™ incorporates the features that elevator contractors find most valuable and reduces costs. The Nexus™ technology platform is combined with Vantage's Self-Service Portal, making end-to-end estimating, pricing and ordering streamlined and simplified.



Learn more at vantageelevation.com/nexus

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