VALVE MONITORING
AVOID THESE COSTLY MISTAKES WHEN BUYING SWITCH BOXES

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Westlock manufactures a wide range of products for the monitoring and control of process valves.

Our products have been developed using the latest technology and are intended to work seamlessly with both on/off and modulating valves and actuators to help improve both performance and safety.
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Westlock Controls integrated products and smart solutions meet the needs of many sectors within the process industries.

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We want to make sure you avoid these mistakes when considering Switch Boxes and Valve monitors. Call us with any questions.

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The Importance of Switch Boxes

Switch boxes serve as vital elements within industrial systems. Their importance lies in their ability to offer both local and remote indications of valve position, instilling confidence in the control of fluid flow and guaranteeing system safety and efficiency. Selecting the appropriate equipment becomes paramount to prevent costly errors and maintain seamless operations.

When it comes to purchasing valve monitoring solutions, there are several factors to consider. In this article, we will discuss some of the common mistakes that people make when buying this equipment and how to avoid them.

Not Understanding Your System’s Needs

One of the most common mistakes people make when purchasing switch boxes is failing to understand their system’s requirements. Each system is unique, and the equipment needed will depend on the specific needs of the system.

Here are some key things to consider:

- **Valve Type and Size:** Determine the type and size of the valve you want to monitor with the switch box. Decide if you want Double Acting or Single Acting. Different valves may require specific types of switch boxes to fit and operate correctly.

- **Mounting Compatibility:** Check the compatibility of the switch box with the actuator used to control the valve. Ensure that the switch box can interface seamlessly with the actuator’s mounting and connection points.

- **Control Signal:** Consider the control signal required for the switch box. Common control signals include electrical and pneumatic (compressed air).
Choosing the Wrong Type of Sensing Technology

Another common mistake is choosing the wrong type of switch box for your system. There are several types of limit switch boxes designed for valve monitoring, each with its own features and benefits.

The most basic type of limit switch box is a mechanical limit switch box, which uses mechanical levers or cams that are actuated by the movement of the valve. Other switch box options consist of proximity sensors, inductive sensors, position sensors, or potentiometers.

Choosing the wrong type of equipment can lead to inefficiencies and safety hazards. For example, proximity sensors are non-contact and can be more reliable in harsh environments since they don’t have moving parts that can wear out. If your plant is in a hazardous environment where there is a risk of explosions, explosion proof limit switch boxes contain any potential explosion within the enclosure and prevent it from reaching the external environment.

Failing to Consider Suitable Wiring Options

Suitable wiring options for limit switch boxes in valve monitoring systems are crucial for ensuring reliable and safe operation. Proper wiring helps maintain accurate communication between the switch box and the control system, minimizes the risk of signal interference or failure, and ensures that the valve’s status is accurately reflected in the control room.

Failing to choose the right wiring options can lead to difficult installations, costly modifications, or replacements. For example, if you purchase a switch box that is in a harsh or high vibration environment, make sure to use cable protection to prevent moisture, dust, chemicals, or physical damage.
Overlooking the Importance of Quality and Durability

Quality and durability are essential factors to consider when purchasing switch boxes. Investing in high-quality and durable equipment can ensure long-term reliability and cost-effectiveness.

Investing in low-quality equipment may save money initially, but it often results in higher long-term costs due to frequent repairs and replacements. Additionally, such equipment can cause downtime and lost production. The corrosion and wear and tear of legacy sensing technology further exacerbate these issues.

Not Meeting Area Classification Requirements

When deciding on switch boxes for your installation, it’s essential to take the installation environment into account. Assess the enclosure rating and the level of protection they offer against dust, moisture, and other environmental elements. Opting for products with global certifications can be highly advantageous, as they cater to a diverse range of applications.

Moreover, don’t forget to consider Hazardous Area certifications, ensuring that the switch boxes eliminate any potential ignition sources, thereby safeguarding the well-being of your employees. By making informed choices in these areas, you can ensure both functionality and safety in your industrial setup.
Ignoring the Importance of User-Friendliness and Ease of Installation

If the switch box is not user-friendly, operators may find it challenging to use and avoid utilizing it to its full potential. This lack of user adoption can limit the benefits of the monitoring system and hamper the organization’s ability to optimize valve control and fluid flow processes.

Difficult installations can potentially result in improper wiring or connections, which may pose safety risks, especially in industrial environments with hazardous materials or high-pressure systems.

Not Considering Future Maintenance

Choosing a switch box with difficult maintenance requirements can have several negative consequences beyond increased downtime and maintenance costs.

Poor accessibility can create safety hazards for maintenance personnel, increasing the risk of accidents or injuries during maintenance activities.
Failing to Account for Future Expansion or Upgrades

Future expansion or upgrades are essential factors to consider when purchasing switch boxes. Choosing equipment that can accommodate future expansion or upgrades can avoid costly replacements.

Switch boxes may lack modularity and flexibility, making it difficult to integrate with other systems or adapt to changing requirements. This restricts the scalability and versatility of the monitoring setup, hindering future expansions or upgrades.

Not Researching the Manufacturer’s Reputation

When you’re in the process of buying switch boxes, one vital aspect you should never overlook is researching the manufacturer’s reputation and customer support. This step holds immense significance as it directly impacts the quality of equipment you receive and the level of support you can count on.

Imagine this scenario: you go ahead and purchase equipment from a manufacturer with a poor reputation and subpar customer support. Sadly, this decision can lead to a host of problems, such as equipment failures and unwelcome downtime. Additionally, seeking assistance when you need it the most can become an arduous task, resulting in increased expenses and lost production time.
Conclusion: Avoiding Costly Mistakes When Buying Switch Boxes

In the realm of industrial operations, the purchase of switch boxes for valve monitoring carries significant implications that extend well beyond the initial transaction.

This process demands meticulous attention to detail, comprehensive understanding of requirements, and a proactive approach to anticipating future needs. The costly mistakes discussed in this article underline the crucial importance of thorough research, informed decision-making, and a commitment to long-term effectiveness.

Neglecting aspects such as environmental conditions, compatibility, maintenance considerations, and reputable manufacturers can result in not only financial setbacks but also compromised safety, reduced productivity, and operational disruptions. By heeding these insights and avoiding these pitfalls, organizations can ensure that their investment in valve monitoring switch boxes is a strategic move towards improved efficiency, reliability, and successful industrial performance.