

# Hydraulic vs Electric Barriers: Pros and Cons

## Introduction:

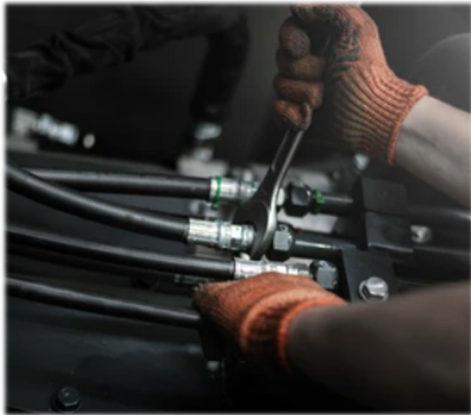
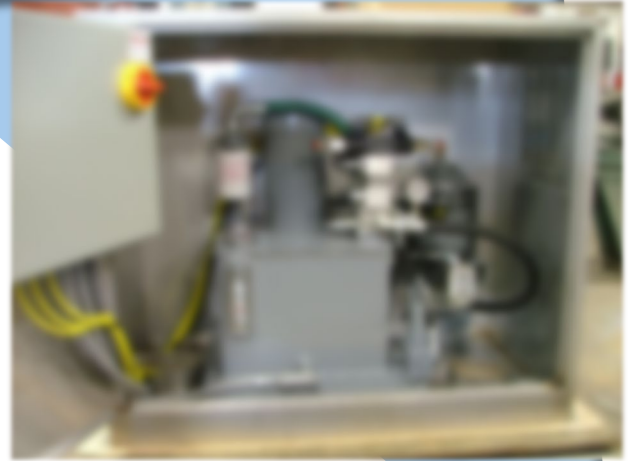
Understanding the differences between hydraulic and electric powered barriers is important. When it comes to vehicle crash barriers, both deployment technologies have distinct advantages and disadvantages. We provide you with a comprehensive breakdown of hydraulic and electric vehicle barriers, examining their key features, strengths, weaknesses, and considerations that will help in the decision-making process.

## Hydraulic Barriers

### Advantages

**High Force and Power:** Hydraulic barriers are known for their substantial force. This makes them suitable for high security applications like government facilities, military bases, critical infrastructure, and largely populated buildings. They can effectively withstand aggressive vehicle attacks.

**Durability:** Hydraulic barriers provide a longer life span when regularly maintained. Even in challenging environmental conditions, hydraulic systems will maintain effective power.



**Reliable Operation:** Hydraulic barriers are stable and reliable because of the steady force generated by the hydraulic fluid pressure. This also contributes to precise control over the barrier's deployed position.

**Preventative Maintenance:** Most hydraulic barrier system failures can be prevented by monthly or quarterly routine visual checks. If there are oil leaks or gauges showing lower pressure than required, adjustments can be made.

**Maintenance Costs:** Hydraulic barriers have a low cost in the event of barrier operation failure. A loss of pressure in a hydraulic system can typically be sourced easily due to leakage. Replacing only the damaged part(s)

# Hydraulic vs Electric Barriers: Pros and Cons

## Disadvantages

**Slower/Repeated Operation:** The time required to build and release hydraulic pressure can result in a delay in the barrier's re-deployment. An accumulator is continuously charged for emergency barrier up deployment.

**Energy Consumption:** Hydraulic systems may consume more energy, particularly during periods when hydraulic pressure needs to be maintained. This can potentially contribute to slightly higher operational costs.



**Initial Installation Cost:** The cost of installing hydraulic barriers can exceed that of electric barriers. The complexity of hydraulic systems and the need for professional installation can contribute to increased upfront expenses.

**Environmental Considerations:** With hydraulic barrier systems, fluid leaks pose an environmental concern. Environmentally friendly fluid is used for accidents or leaks preventing ecological consequences.

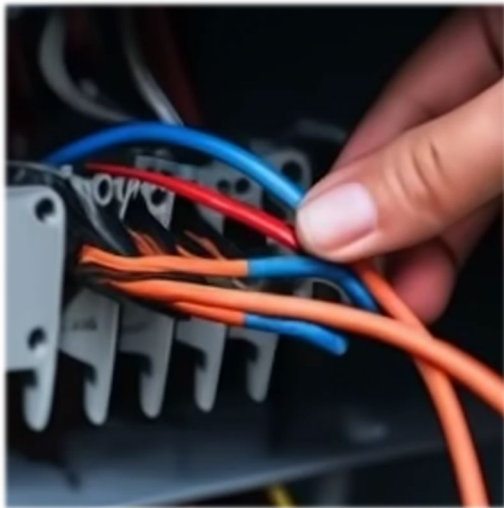
# Hydraulic vs Electric Barriers: Pros and Cons

## Electric Barriers

### Advantages

**High-Speed Operation:** Electric-operated barriers are known for their consistency in high-speed deployment capabilities. They can quickly open and close and are used for Emergency Fast Operation (EFO) when it's required in the specifications. These would be ideal in high-volume industries such as stadiums, corporate campuses, and airports.

**Repeated Operation:** Immediate re-deployment is also a large advantage to electric barriers.



**Ease of Installation:** Electrically operated crash barriers are often simpler to install compared to hydraulic-operated barriers. They typically have fewer components and may require a little less expertise for installation.

**Energy Efficiency:** Using an electric barrier design can be more energy-efficient, especially during standby periods when the barrier is not actively in use. Over the long term, this can contribute to lower operational costs.

**Adaptability:** Electric barriers can be easily integrated with other surrounding security systems, such as surveillance cameras, intrusion detection systems, and control panels.

# Hydraulic vs Electric Barriers: Pros and Cons

## Disadvantages

**Limited Force and Strength:** Electric barriers may have limitations in terms of the force they can exert, making them potentially less suitable for applications requiring the highest physical strength.

**Less Durable in Extreme Conditions:** In harsh environmental conditions, such as extreme temperatures or corrosive environments, electric barriers may have a shorter lifespan compared to hydraulic barriers.



**Dependency on Electricity:** Electric is entirely dependent on a stable electricity supply. This may require more work during installation having to run power to the barrier's location. Power outages or electrical issues can also disrupt the functionality of the barrier.

**Environmental Impact:** The different types of materials used in electric barrier components can have environmental implications. However, efforts are made to develop eco-friendly designs and use sustainable energy sources.

## Conclusion

Ultimately, the choice between electric and hydraulic barriers depends on specific security requirements, budget considerations, and intended applications. Each type presents a unique set of advantages and disadvantages, which require a thorough assessment of the security system's particular needs. PRO Barrier recommends hydraulic barrier systems. They efficiently store energy, which makes fast barrier operation easily achievable, are relatively trouble free, and if a problem does occur, they are easily diagnosed and repaired.