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# Hydraulic vs Electric Barriers: Pros and Cons to Consider

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# Hydraulic vs Electric Barriers: Pros and Cons to Consider

Electric and hydraulic perimeter barriers, though both designed for access control, differ in several categories. Here are the key pros and cons for each.



## Introduction

When it comes to access control and vehicle crash barriers, the choice between electric and hydraulic barriers can be a confusing one to make. Both of these deployment technologies have distinct advantages and disadvantages. In this article, we'll give you a comprehensive breakdown of electric and hydraulic perimeter barriers, examining their key features, strengths, weaknesses, and considerations that will help in the decision-making process.

## Hydraulic Barriers

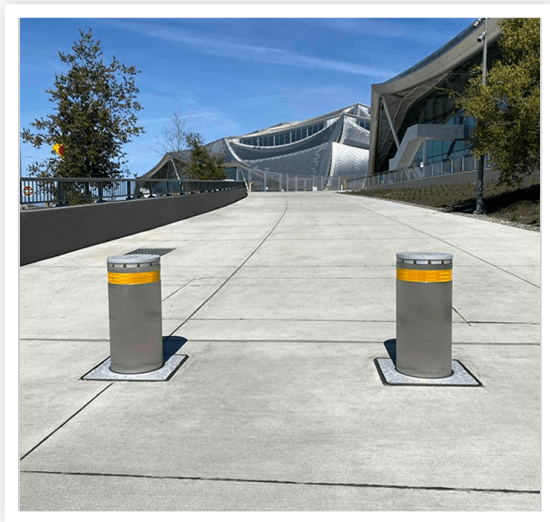
### Advantages

**High Force and Power:** Hydraulic barriers are known for their substantial force, making them suitable for heavy-duty applications like military bases, critical infrastructure, and data centers. They can effectively withstand aggressive vehicle-borne attacks.

**Durability:** Hydraulic barriers, such as Bollards, Wedge, and Beam Barriers provide a longer life span when regularly maintained even in challenging environmental conditions.

**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.





**Versatility:** Hydraulic crash barriers can be adapted for use with various barrier designs from bollards to wedges, beams, and more. They can accommodate different shapes and sizes according to the specific needs of the perimeter.

## Disadvantages

**Slower/Repeated Operation:** Hydraulic bollards, wedges, and other barriers, will generally operate at a slower speed compared to electric. The time required to build and release hydraulic pressure can result in a delay in the barrier's re-deployment.

**Complex Maintenance:** These systems are often more complex than electric ones, requiring specialized knowledge for preventative maintenance. Regular checks and servicing from a certified technician are critical to ensure proper functionality.

**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.

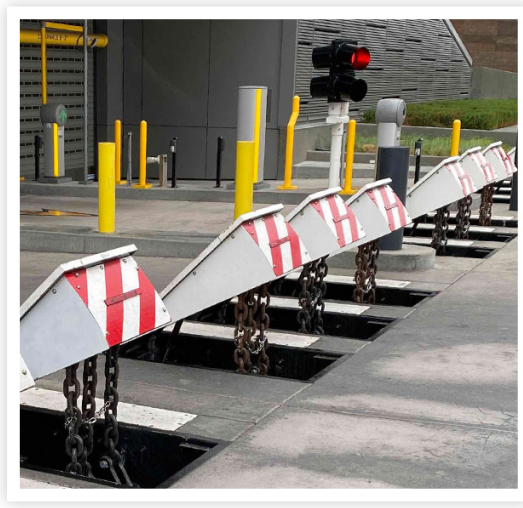
**Environmental Considerations:** With hydraulic barrier systems, fluid leaks pose an environmental concern. While efforts are made to use environmentally friendly fluid, accidents or leaks could have ecological consequences.



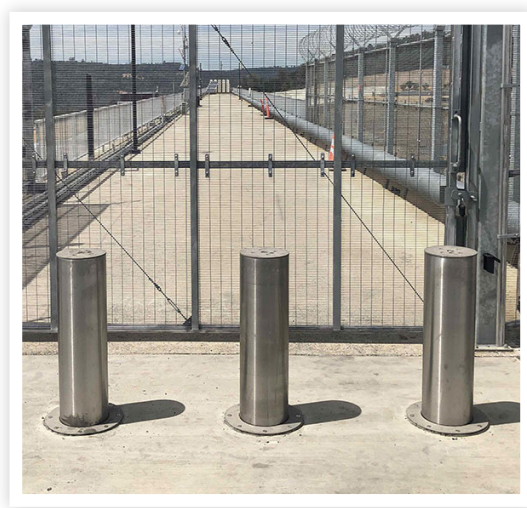
# Electric Barriers

## Advantages

**High-Speed Operation:** Electric-operated bollards and 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.



**Precise Control and Repeated Operation:** Electric barriers have precise control over the movement of the barrier up or down. Having accuracy is beneficial for security where fine-tuned control is essential. Immediate re-deployment is also a large advantage to electric bollards, wedges, and beam 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. A company like Sloan Security Group has certified technicians to ensure equipment is installed correctly and efficiently.

**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 Bollards, Wedge Barriers, Arms, Beams and more can be easily integrated with other surrounding security systems, such as surveillance cameras, intrusion detection systems, and control panels.





## 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 bollards and 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.

If you're seeking expert guidance in making this critical decision, Sloan Security Group, Inc., is a global leader in safe and effective perimeter security and is ready to assist. With a specialization in vehicle barriers, access control, and intrusion detection, Sloan has garnered recognition from distinctive brands and institutions all around the world.

If you need assistance determining what suits your security needs, contact us.



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