Optimum Pier Design

16" min. fence panel next to the piers

Gate posts set on the back side of the piers

In order to avoid having an entrapment zone, a swing gate may not be centered directly on a very large post or any pier. In these pictures, side panels of fence must be added or the gate & gate posts should be offset to the inside corner of the pier. This design also makes the gates and posts easier and less expensive to repair if hit by a vehicle.

General

(not required by UL 325 or ASTM F-2200 but highly recommended):

- If privacy slats, large or multiple signs, screening or solid panels are to be added now or at a later date, the gate operator and gate design will be quite different from an "open air" gate. Please bring this to your Professional Gate Operator Installation firm's attention, asap.
- Large swing gates may require an outrigger for lateral stability in order to be automated.
- If the gate must swing uphill to open, the hinges and gate operator must be specially designed for this purpose. Please bring this to your Professional Gate Operator Installation firm's attention, asap.

NOTE: Reference to ASTM & UL standards is not meant to infer or imply that equipment and labor will provide a finished system at the site that is compliant with either. Design components which include compliance from the fencing contractor, the owner and other site vendors are required.

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Prepared by:
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WARNING (requirements of UL 325 SIXTH Edition and / or ASTM F-2200-14):

- If manufactured after March 1, 2000, the gate operator must be listed / labeled by a Nationally Recognized Testing Laboratory (NRTL) such as UL or ETL.
- Swing gates must be easily operated manually in order to be automated. An automatic gate operator will not compensate for a gate that is difficult to operate by hand.
- Swing gates that are to be automated cannot drag the ground and cannot have wheels on the bottom.
- Because motorized gates are for vehicular traffic only, a separate walk through gate must be supplied for pedestrian use unless there are no fences or obstructions to prevent walking around the gates.
- Automated swing gates may not open into public areas. Gate operators must be installed on the "secure" side of the gate, never in a public area.
- One or more monitored external sensors must be installed where the risk of entrapment by a pedestrian exists. The gate will NOT operate without them!
- No gate controls or walk gates can be located within 6 feet of any moving part of the gate except controls specifically designed for use by Emergency Responders (Knox box, etc.)
- All potential pinch points and areas of potential entrapment must be eliminated by design or guarded. All stationary items like walls, posts, etc. must be less than 2-1/4 inches or more than 16 inches away.
- Swing gates hinged directly from pillars may not cover the pillar more than 4 inches from hinge center when in the open position (cannot center the gate directly on the pillar.)
- The gate must have a smooth bottom; no pickets can extend below the bottom rail.
- If the bottom of the gate is more than 6 inches above grade, a safety "bump" edge must be installed along the bottom rail of the gate.
- Warning signs must be clearly visible on both sides of the gate.
- Swing gates that are to be automated DO NOT require screening like slide gates.
- NOTE: Your gate operator may not be able automate non-compliant gates.

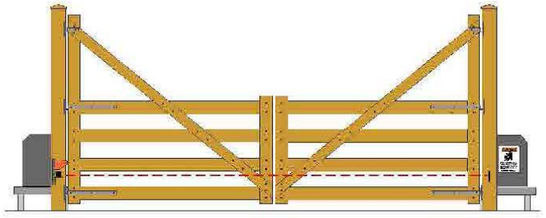
Swing Gate Design

and the UL 325 Standard / ASTM F2200

(COMPLIANCE TO THE UL 325 SIXTH EDITION & ASTM F2200-14 GATE SAFETY STANDARDS UPDATED JANUARY 12, 2016)

What changes in UL 325 should I be concerned about?

Some of the changes that came into effect January 12, 2016 are simply clarifications. One changes the way an automatic gate installation is made "people safe." Here is a synopsis. If your gate operator was manufactured between March 1, 2000 and January 12, 2016, you must protect pedestrians by adding at least one external safety device like a photo eye or "bump" edge, presumably for the opening and/or closing direction or where serious danger of entrapment exists.

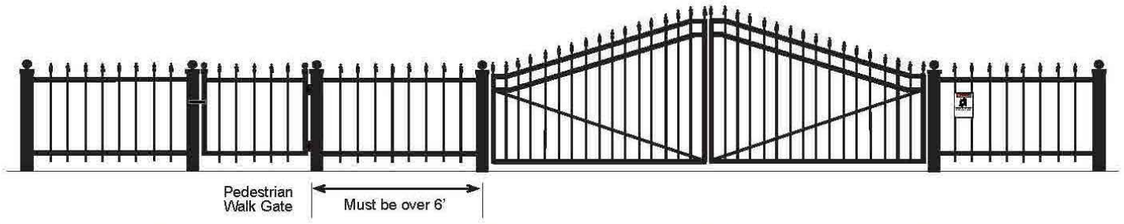


If manufactured after January 14, 2016, at least one external safety device like a photo eye or "bump" edge, MUST be added for BOTH the opening and closing directions. Where the danger of entrapment exists, adding the pictured guarding to the area is required. Additionally, the safety devices must be monitored. This means that if they are absent or not working, the gate operator will not function.

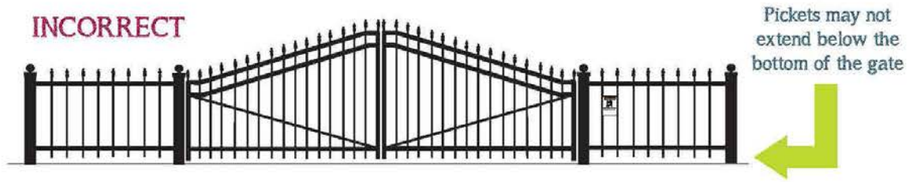
This article is designed to help you understand what is required for an automatic gate installation to comply with the safety standards. The information will also act as a guide for Safety Upgrades to existing swing gates.
An often overlooked item required in the UL 325 & ASTM F2200 standards is a separate access point or walk gate for use by pedestrians. If the gate can be walked around (there is no fence or limiting factor preventing it) no walk gate is required.

Automatic Gates are for Vehicular use only!

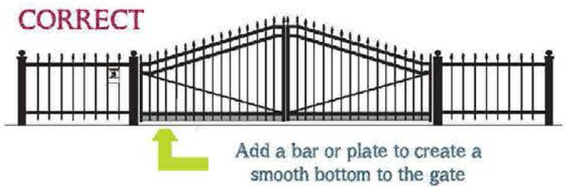
They are NOT intended for use by pedestrians, although they must be guarded to prevent harm to pedestrians. Multiple monitored entrapment protection devices must be a part of the system. No gate or controls can be located within 6 feet of the gate except those controls specifically designed for use by Emergency Responders (like a Knox box.) The gate operator must be listed by UL or another approved testing and listing service. Industry standard warning signs must be visible on both sides of the gate. Rental units, apartment complexes, self storage facilities, etc., should add the information from the sign to their rental agreement and have each tenant sign that they received the Gate Safety information. The inherent & external entrapment protection devices must be tested monthly.



Gate Bottom Must Be Smooth



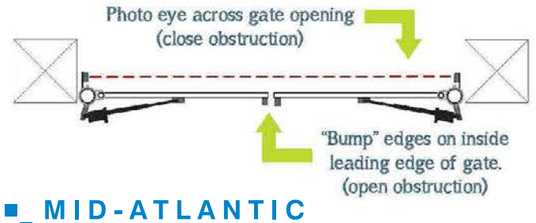
The UL 325 & ASTM F2200 standards specify that no pickets can extend below the bottom of the gate. New gates should be ordered with a smooth bottom. When automating an existing gate, the extending pickets can be cut off or a solid plate added below the bottom rail to create a smooth bottom.



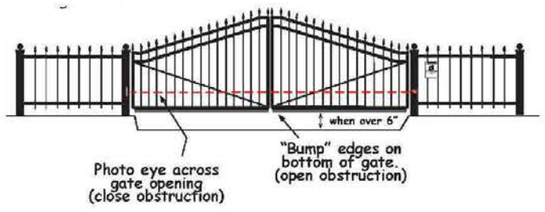
Entrapment Devices

In addition to the Inherent Entrapment Devices built into each gate operator by the manufacturer, UL 325 requires that one or more monitored contact or non-contact sensors shall be utilized for both the opening and closing directions, located where the risk of entrapment or obstruction exists. Please refer to the following diagrams for possible locations. Also, if a swing gate is more than 6 inches above grade or the road surface, a sensing edge is required along the bottom rail of the gate.

Actual site conditions will determine the number of External Entrapment Devices required. Each site may be different. Recommendations for placement of External Entrapment Devices vary widely from manufacturer to manufacturer. Please contact a Professional Gate Operator Installation firm to assure that your system meets the UL325 Standard and ASTM F2200 recommendations. Possible locations:

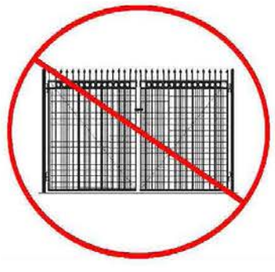


The UL 325 & ASTM F2200 standards specify that if the bottom of gate is more than 6 inches above the road surface or grade, a "bump" edge must be added to the bottom of the gate. A curb can also create a situation where a "bump" edge is warranted.



Screening

The UL 325 & ASTM F2200 standards DO NOT require Swing Gates to be screened to prevent reach through accidents like Slide Gates.



MID-ATLANTIC ENTRY Systems
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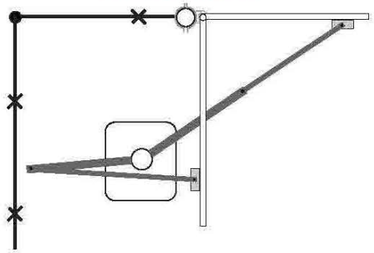
Standard Folding Arm Gate Operators

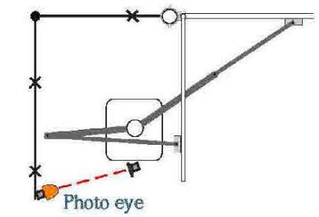
The UL 325 & ASTM F2200 standards specify that potential pinch points and areas of potential entrapment must be eliminated by design or guarded. All stationary items like walls, posts, etc., must be less than 2-1/4 inches or more than 16 inches away from the moving part of the gate.

INCORRECT

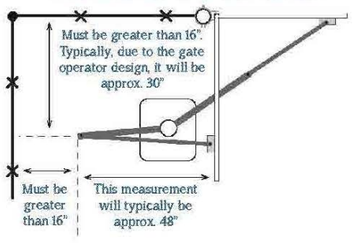


NOTE: *Incorrect situations above MUST be protected by safety edges or photo beams.*

CORRECT BY GUARDING



CORRECT BY DESIGN



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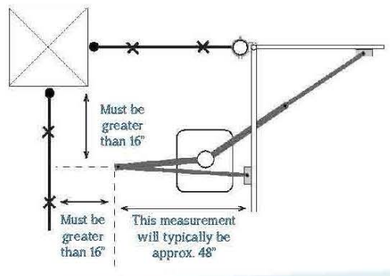
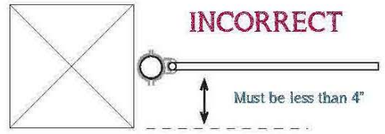


Linear Type Gate Operators



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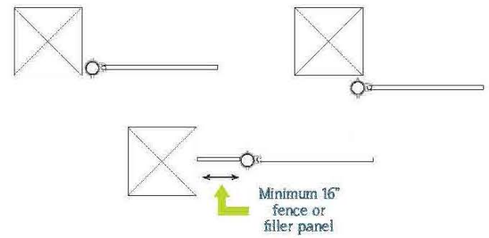
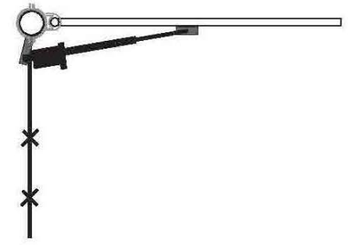


In order to avoid having an entrapment zone, a swing gate may not be centered on a post or pier. In this case, the gate should be offset to the inside corner of the pier or post. Additionally, no fence or wall running perpendicular (90 degrees) to the closed gate can be closer than 16 inches to any part of the gate operator including the arm throughout its travel.

INCORRECT



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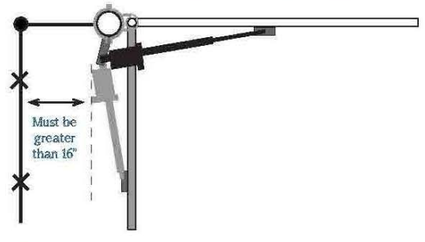

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