

Shocks Control Hydraulics for Automatic Driveway Swing Gate



Application Issues:

Large, 8', 10' & 12' long gates had severe visual oscillation and twisting when decelerating to both the full open and closed positions. Slowing the overall swing speed stopped the oscillation and twisting but produced impatient customers.

Solution: Add two shock absorbers as close as possible to the pivot. A couple of inches of deceleration near the pivot produced a couple of feet of aesthetically pleasing visual deceleration at the gate end tips.

Application Issues:

There was very high effective weight, nearly all was a product of the hydraulic driving force.

The shock absorber had two functions:

1. Decelerate the moving gate energy which was a very small portion of the overall energy.
2. Because most of the energy is from the hydraulics, the shock absorber can be thought of as the varying velocity flow control. As the shock absorber gradually slows, the hydraulic system starts to gradually increase flow across the relief valve. Using a shock absorber as a fixed variable flow control makes the hydraulic system act like it has servo controlled deceleration, but without the expense or sophistication that electrical controls require.

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ELAX® Electric Slide with Position and Force Control



In today's automation environment, demands placed on precision, complexity, dynamics, flexibility and efficiency in machine solutions are constantly rising. Where pneumatic slides or solutions with screw type or timing belt linear

motors fail to meet these new standards, the new direct drive electric slide ELAX® excels. Thanks to this patented novelty with integrated linear motor it becomes possible to respond to all these needs at a very competitive price level. No matter if held flat, upright, as cross table or as linear cantilever, thanks to the uniform hole matrix, the ELAX® electric slides can be directly combined without the need for adapter plates.

But it is much more than just a positioner! Together with the Servo controller XENAX® Xvi, the patented function "Force Calibration" allows to control, monitor and limit forces – no need for an external sensor.

Your benefits at a glance:

- Flexible Positioning with accuracy up to $\pm 393.70 \mu\text{m}$ ($\pm 10 \mu\text{m}$)
- Strokes from 1.18" to 5.90" (30-150mm)
- Limit, monitor and record forces together with the Ethernet XENAX® Xvi Servo Controller
- High dynamics up to 9.84 ft/s (3m/s)
- Uniform hole matrix allow flexible Cross Table and Pick and Place combinations flat or upright
- Significantly less energy consumption compared to alternative automatic solutions
- Flexible one-Cable connection on the back or on the side
- No need to exchange dampers or sensor cables
- Minimized noise and vibrations
- Most minimal wear and tear

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