

ACE Profile Dampers Protect Motion Systems From Dangerous Crashes

For motion systems, crashes can be catastrophic—causing anything from inconvenient repairs to costly system downtime. One company, however, has successfully found a way to minimize the dangers of crashes on its linear axes using profile dampers from ACE Controls. You can easily install these small, yet durable components on rails as end-position dampers, protecting both the components and larger system in the event of a crash.

Let's take a look at how ACE profile dampers did the trick:

Controlling Impact In The End Position

LISCO specializes in designing and manufacturing standard and customized motion control products, from individual axes to entire linear axis systems. In addition to drives, controls and measurement protocols, linear axes often include profile rails and roller guides—enabling them to achieve higher load capacities, low coefficients of friction, high running accuracy and rigidity.

Recently, the company sought to improve the safety of its linear axes, which are used in many demanding applications, including material handling and delivery systems. “Specifically, our task was to find a way to control the impact in the end position should a software error or power failure occur,” says Marcel Schlünz, Operations Manager at LISCO. “The resulting damage could lead to very costly repairs or even downtime for the whole system.”

ACE Profile Dampers Fit The Bill

Since LISCO's linear axes include profile rails and guides, it made sense to find a compact, easy-to-install solution that engineers could simply attach to the left and right of each rail. TUBUS axial profile dampers (type TA17-7) from ACE Controls fulfilled these requirements.

TUBUS profile dampers feature a copolyester elastomer—a material that only heats up slightly and ensures consistent damping during operation. These components are also a cost-effective alternative to

LISCO's linear axes include ACE profile dampers to protect rails and guides from crash damage.





TUBUS (type TA17-7) profile dampers from ACE Controls provide energy absorption between 2 and 2,951 Nm.

hydraulic dampers. “This feature is important to a lot of our customers,” says Thorsten Kohnen, Sales Application Engineer and Product Specialist for TUBUS Profile Dampers at ACE Controls. “The dampers’ simplified design saves money on the overall construction of the linear system without compromising safety.”

TUBUS dampers provide maximum energy absorption between 2 and 2,951 Nm at the start of each stroke. Not only do they feature a space-saving size of 12 to 116 mm, but they can also be installed quickly and easily using a special screw. These dampers are also reliable at temperatures between -40° and $+90^{\circ}\text{C}$ and boast a long lifespan—up to 20 times longer than urethane dampers, 10 times longer than rubber dampers and five times longer than steel springs. In addition to small linear systems, they’re suitable for large, heavy-duty machines, including conveyors and cranes.

Little Helpers, Big Possibilities

ACE provides nearly 150 types of TUBUS profile dampers, which are available for a wide variety of applications. They’re an ideal alternative to hydraulic miniature or industrial shock absorbers—especially in cases where masses don’t require deceleration to an exact point. In addition to their long service life up to 1 million load changes, the TUBUS family stands out from other solid damping elements due to their compact design, high absorption capabilities and ease of installation.

“We couldn’t be happier with the result,” says Kohnen. “With the addition of the profile dampers, we’re confident that our linear axes will remain protected from crashes—should failure ever occur.”

To learn more, please visit: www.acecontrols.com