Southland Industries Discovers Labor-Saving Value of New Linkage Technology at Fort Belvoir Hospital

Andy Cummings of Southland Industries has suffered through his share of cumbersome damper actuator installs. With over 30 years of experience in the sheet metal industry, he knows that the process is not only time consuming, it can yield disappointing results if the connections are in any way unstable. Damper blades can become twisted or bent, linkages can bend or even break, etc. Meanwhile, the last thing a busy design, build and maintenance firm like Southland Industries wants is to revisit a failed installation that was already labor intensive to begin with!

Unfortunately, the industry has not served up many solutions for this universally recognized problem; at least not until the 2010 release of the ZG-JSL jackshaft linkage from Belimo.

Cummings and his associates at Southland first learned of the new jackshaft linkage in 2009. The company was so intrigued by the possibilities of this revolutionary new connection tool that they made arrangements to purchase the first 200 pieces Belimo released even though it would be months before the linkages were available.

The ZG-JSL's much anticipated release in late 2010 just happened to coincide with a fast track military project of Southland's. The contractor had already installed a 20' x 40' bank of dampers (and actuators) in the generator room at the new Fort Belvoir military hospital in Virginia. However, these dampers proved unsatisfactory for the generator application because they did not provide the 100% seal that the Army Corp of Engineers desired to minimize heat loss from the generator room. Because of this, Southland would have to remove and replace all of the existing brand new equipment – pushing the project's already tight schedule to the limit.

It was the perfect opportunity to try out the new Belimo linkage and see how much time it really saved. Since Southland had already installed the exact same project using conventional angle plates and rods, it would also provide a perfect apples-to-apples comparison of the two installation strategies.

What Makes the ZG-JSL Jackshaft Different

The ZG-JSL jackshaft linkage is designed to easily attach to any part of a jackshaft and allow easy installation of specific Belimo actuators – Southland's preferred brand of actuated control. Unlike conventional actuator installs, the ZG-JSL eliminates the removal of bearings or the use of ball joints and pushrods to complete an installation. Its open-ended design and clamp insert allows the linkage to be used with any jackshaft from ½" to 1" in diameter. An adjustable anti-rotation plate means it can be positioned for a variety of Belimo actuators.

It is a one-piece, robust solution for demanding applications like the

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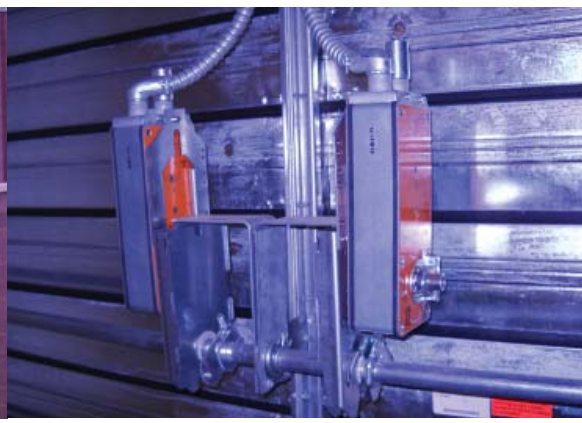

generator plant at Fort Belvoir Hospital, which must be able to deliver full power to the hospital in just 6 seconds. Make-up air is required for the hospital generators to leap into action, which means the dampers must open rapidly to instantaneously deliver up to 100,000 CFM to each of the two generators per room in the plant. Given the challenging application, Cummings was hesitant to use standard methodology.

"When a damper is on the receiving end of 120 volts of power like these are, damper blades can easily twist if the actuator is mounted directly to the blade. These new linkages eliminate that scenario and the associated instability," said Cummings.

Minutes Vs. Hours

Southland was banking on the durability of the ZG-JSL application, but would it be the time-saving solution that the contractor had hoped for?

"No doubt about it," said Cummings, who had the hindsight of the previously installed dampers and actuators with which to compare his experience. The original actuator installation took two workers a full week to complete. Installing the actuators on the new dampers using the Belimo jackshaft linkage took two men only a day and a half to complete.

"What would have taken hours, took minutes," said Cummings.

"The generator room went so smoothly that the same linkages were used to install Belimo actuators throughout the hospital. While the linkages may cost a bit more", said Cummings, "the savings in labor more than offsets the cost. It's also an investment in serviceability since the linkages make the actuators far more accessible for servicing and replacement, which is important to Southland since they set up service contracts for many of the projects they install."

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Belimo worldwide: www.belimo.com

BELIMO Americas
USA Locations, 43 Old Ridgebury Road, Danbury, CT 06810
Tel. 800-543-9038, Fax 800-228-8283, marketing@us.belimo.com

1049 Fortunato Loop, Sparks, NV 89436
Tel: 800-987-9042, Tel: 775-857-4243, Fax: 800-987-8875, marketing@us.belimo.com

Canada Locations, 14/16 – 5716 Coopers Avenue, Mississauga, Ontario L4Z 2E8
Tel. 866-805-7089, Fax 905-712-3124, marketing@us.belimo.com

Latin America and the Caribbean Customer Service,
Tel. 203-791-8396, Fax 203-791-9139, marketing@us.belimo.com

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