

Drive & Control profile

Rexroth aluminum framing for solar panels boosts LG Energy Solutions productivity, cuts installation times



For LG Energy Solutions, solar panel installation times have dropped by an estimated 25% since Rexroth framing became standard.

Off-the-shelf framing products are a good fit: an easy to install, flexible, reconfigurable structural mounting system for residential and commercial solar energy applications

Solar energy, as a “green” technology, has been much in the news lately. Solar panels represent one of the most advanced and sophisticated technologies in the world of sustainable energy, with potential that continues to develop. But for the industrial,

commercial and residential customers of Philadelphia-area energy firm LG Energy Solutions, (www.lgenergysolutions.com) one of the keys to quick installation of this highly sophisticated technology has been an elegantly simple framing concept used frequently

Challenge

- Develop a rapid, cost-effective way to install support framing for solar panels, reducing installation times at commercial and residential customer sites
- Simplify the installation process by avoiding the need for custom-designed panel mountings or sophisticated tools

Rexroth Solution

- Rexroth aluminum structural framing—anodized aluminum profiles of 45mm x 45mm (1 3/4" X 1 3/4") dimensions, plus connectors and L brackets

Benefits

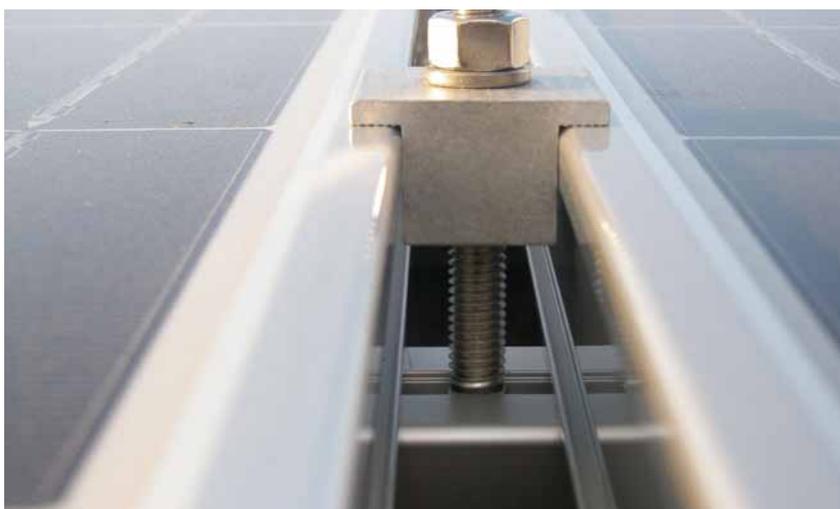
- Reduced installation times, decreasing by an estimated 25% since use of Rexroth structural aluminum framing
- Time and costs savings because structural aluminum framing requires no special tools, training, engineering or reconfiguring
- Ease of modification and/or expansion for solar installations

in factories: lightweight, but strong anodized aluminum framing from Bosch Rexroth.

Rexroth aluminum framing, available in a variety of sizes, is built around a simple T-slot aluminum extruded profile (framing element). Its stock extrusions, connections and accessories are generally bolted together rather than being permanently fastened. This product has long been at work in a variety of industrial applications, such as ergonomic assembly workstations, machine frames and guarding, and customer fixturing; now it's being adapted to architectural applications, such as window frames, museum and shop display cases, and complete houses as well. LG Energy Solutions recognized the single key advantage that Rexroth aluminum framing offers: reduced assembly time and the chance to simplify and speed up solar panel installation.

LG Energy Solutions found out about the aluminum framing through a business associate who was a customer of Airline Hydraulics (www.airlinehyd.com), a distributor of Rexroth products. LG Energy Solutions was intrigued by the possibility of using Rexroth framing to hold solar panels in place and create installations of almost any size or configuration, so they ordered several framing elements to test out the idea.

The framing passed the test with flying colors, proving ideal for holding solar panels in place, in any orientation. LG Energy Solutions quickly adopted Rexroth



Rexroth's aluminum framing extrusions, connections and accessories are generally bolted together rather than being permanently fastened, allowing the chance to simplify and speed up solar panel installation.

aluminum framing as its standard for solar installations. Straight aluminum profiles (generally 45 mm x 45 mm) are now the basis for supporting solar panels in whatever configuration is needed, using simple tools and with no need for specialized training or even written instructions. The

four-sided aluminum profile ends are easy to bolt together and provide considerable flexibility for joining profiles. This allows LG Energy Solutions to adapt each solar installation to the physical environment and space available, without the need for specialty engineering or custom



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framing designs. With rare exceptions, Rexroth aluminum framing components (profiles, connectors, L brackets) are simply ordered “off-the-shelf” through Airline Hydraulics, delivered to LG Energy Solutions and sent out into the field to be used in solar framing installations. The only significant alteration to standard Rexroth framing components is the use of 3/8” carriage bolts instead of Rexroth T bolts to make connections, to accommodate the distributed weight of the panel.

Thanks to Rexroth aluminum framing, the LG Energy Solutions goal of cutting installation times and increasing productivity (more installations in less time) has been reached. Solar panel installation times have dropped by an estimated 25% since the Rexroth framing became standard. Obtaining additional framing for new

installations is fast and easy, too, since the framing is simply ordered from the catalog and delivered by local full-service Rexroth distributor Airline Hydraulics, which stocks most Rexroth framing products locally.

Also, Rexroth anodized aluminum structural framing is rugged and weather-resistant, which not only contributes to the durability of each installation, but also helps aesthetically because it continues to look clean and neat—even without any painting or other finishing. The weather-resistant qualities, along with the design of the profiles themselves, make the aluminum profiles ideal conduits for electrical cabling systems as well.

But for LG Energy Solutions, one of the biggest advantages of Rexroth aluminum framing is its adaptability for future expansion

and/or configuration changes in each installation. “Solar energy is a very future-oriented industry,” says Thomas MacDonald, CEO of LG Energy Solutions. “Rexroth aluminum framing can be modified quickly and easily in case requirements change or new technology comes along. Expanding any of our installations at some point in the future will be much easier using this modular framing system.”

The sheer number of solar installations is already expanding in the present. If solar energy use blossoms over the next several years as most experts predict, LG Energy Solutions will be in good position to respond quickly with new or expanded installations—because to support solar panels in a variety of configurations, Rexroth aluminum framing has proven to be a particularly good fit, in more ways than one.

Rexroth
Bosch Group