

PBC Application News



New Actuator Implemented in Solar Furnace

GT Solar makes silicon furnaces for the manufacture of electricity generating solar panels. Each such furnace uses three ball screw driven actuators to lift and position the furnace cover. They turned to Pacific Bearing to develop a new actuator that would meet their tough load requirements at a lower cost and shorter delivery time than the Thomson Rapidtrak™ actuator that they were currently using. Pacific Bearing answer was the PLA055 actuator.

Setting the Scene

GT Solar sells their product around the world. China is one of their leading customers. In today's competitive market place GT Solar is constantly searching for ways to reduce the cost and improve the delivery time of key purchased components used in their product.

This actuator relies on Pacific Bearing new V-race technology to support the necessary loads in a design that beats the price of the Thomson Rapidtrak™. Pacific Bearing also able to improve the delivery time being provided by Thomson for the actuators.

The Solution

Developing a new low cost, touch load actuator using the newly designed Integral V-race technology to accomplish the tasks of completing the job and coming in below the price of the Thomson Rapidtrak™. This new actuator is called the PLA055. It not only meets all former requirements but even came in at a shorter delivery time than Thomson Rapidtrak™.

Products Used

The PLA055 uses a ball screw to drive a carriage supported by cam rollers running on PBC's integral v-races. The actuator mechanism is enclosed within an extruded aluminum body sealed on top with a magnetic seal strip. Within 4 months Pacific Bearing had supplied three prototype units that allowed GT Solar to test and approve the design. Pacific Bearing recently supplied a total of 45 actuators and has orders for 240 more.



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Products: Standard Equipment

DSS Furnace
High Quality Ingots, Lower Overall Costs

GT-D55450™ Furnace

As the market leader in multi-crystalline growth technology we felt committed to expand our line of products. The DSS (Directional Solidification System) furnace is a result of our development program. Multi-crystalline ingots can now be grown faster and at lower cost than ever before. Plus we deliver all our furnaces, including the well-proven HEM furnaces with a solid process that enables our customers to jumpstart their production.

- Bottom-load process chamber adds operating convenience
- Standardized mezzanine module insures quick set-up
- Produces Material for High Efficiency Cells
- Output of 1 Furnace: equivalent to > 6.2MW with 156 mm cells @ 15.5% efficiency
- Ingot Size: 84 x 84 cm
- Ingot Weight: > 400 kg to 450 kg typically
- Fully automated process
- Process guarantee included

Automated Turkey Fabrication

Turnkey fabrication line for multi-crystalline PV modules

Standard Equipment

DSS Furnace
GT's world standard in multi-crystalline growth

GT Solar Technology
World's Leading Cell String Assembly Machine