Field-Testing Soil, Rock and Geosynthetics for Public Safety

Geocomp Corporation, Boxborough, MA, (http://www.geocomp.com) provides fully automated geotechnical equipment designed to provide laboratory and field-testing services of soil, rock and other materials used below ground surface. Civil engineers rely on these analyses to identify and quantify significant sources of risk and reduce uncertainty in structural behavior. Geocomp helps clients understand the potential hazards below the surface, thereby reducing costs and potential damage to property, while increasing the safety of the workers and the general public.

The test equipment's design originally used a hydraulic system controlled by a 4-20 ma signal for position control. In an effort to achieve better performance, and provide a clean solution, Geocomp's was interested in replacing their hydraulic solution with an all electric solution.

Exlar Solution: Exlar's challenge was to offer an electric solution that could be controlled by Geocomp's existing 4-20 ma control signals from their computer system and provide the needed performance. These control signals are provided in a sinusoidal fashion to the actuation system. The actuation system then follows these control signals proportional to their position and harmonically vibrates earthen samples very accurately. Recording data from sensors provides Geocomp's customers with the data they need to properly design the structures which will be built on such surfaces.

The actuators needed to provide 1000 to 4000 pounds force, with high repeatability, rigidity, and accurate control to avoid overshoot and any oscillation. To accomplish this, Exlar provided IX20 and IX40 Series actuators configured for inline mounting of Allen Bradley MPL motors.

The I Series, using Exlar's inverted roller screw technology, provided the load capacity and far exceeded their cycle rate expectations to meet the application specifications. The exceptional response and performance of the Exlar solution dramatically improved the overall system response of the test equipment.

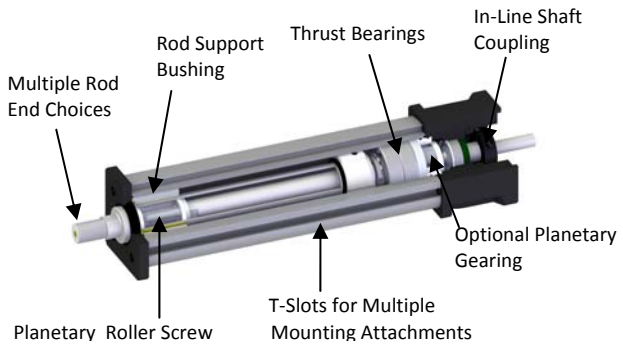
Improved response in a testing system allows the user to extract more accurate data, or, data at a higher sample rate. Both of these advantages allow Geocomp to provide better analysis of the samples that they test.

In addition to the superior performance, the set-up time for this application was reduced from two months to two days, including all the control system adjustments. This incredible time savings, combined with a much lower product cost, and superior performance over earlier solutions has presented Geocomp with a superior system to offer their customers in lead time, performance and cost!

Exlar Products: I Series actuators offer a cost effective linear actuator solution with all the benefits of Exlar's inverted planetary roller screw technology, and the flexibility to mount any motor to the actuator.

Two product performance levels are available, standard capacity roller screw with up to 5 times the travel life of a ball screw; and IX which offers 15 times the life on an equivalent ball screw.

Exlar's roller screw technology has been the integral component in creating the most reliable, long lasting electromechanical actuators available on the market. Over the last 15 years, Exlar's inverted roller screw actuators have provided a long-life, all-electric replacement for hydraulic cylinders in thousands of applications, leading to improved performance for customers, and a cleaner environment for all.



Call us today at 952-500-6200 to discuss your application requirements and learn more about the benefits of an Exlar solution! You may also visit www.exlar.com for more details and specifications of products.

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