German Research Institute Improves Testing Results by Replacing Hydraulic Actuators with Roller Screw Driven Electric

CUSTOMER
Research institute located in Germany, local German Exlar distributor (IGAS)

APPLICATION
Material fatigue testing

CUSTOMER CHALLENGE
The customer was attempting to use a hydraulic solution, but it could not provide the necessary combination of speed and precision. In addition, the hydraulic solution was complicated to commission and generated a significant amount of noise during operation. After a short period of time the customer started experiencing issues with leaking hydraulic fluid that were problematic to resolve.

SOLUTION
The Exlar® GSX30 and GSX40 were selected based on their force ratings and small package size. IGAS was able to secure the order by offering a complete motion solution package including the Exlar actuators.

The actuators apply a sinusoidal load to each test specimen according to the following profile:

10 Hz +/- 1mm more than 2 Mio. Cycles
3-5Hz +/- 3mm more than 2 Mio. Cycles

Other electric solutions were considered, however, the Exlar roller screw actuators were the only electric solution capable of providing the required combination of force, speed, package size and life.

RESULTS
The Exlar GSX can be optimally controlled even at high speed, which was critical to the validity of the test results. The Exlar GSX models have been running at 130% of catalog rating for over six months without issue, a testament to their robust design.