

All-Electric Actuators Replace Hydraulics for Pipeline Flow Control

APPLICATION CHALLENGE

Cenex sought an electric replacement for their valve-operating hydraulic actuators. The all-electric actuators simplified their installation and provided a more cost effective solution for set-up, operation and maintenance.

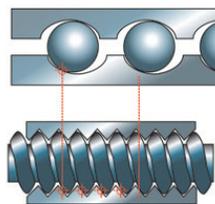
EXLAR® SOLUTION

Exlar servo electric actuators have recently been installed on a refined products pipeline in rural Montana. The Tritex II® actuator operates a 6 inch Fisher globe valve, controlling the flow rate of various refined products from a refinery to the end user. Exlar actuators provided an economical alternative to the existing hydraulic actuators traditionally used for this application. Current industry trends are to eliminate the use of hydraulics where possible to gain the benefits of simplified installation as well as reduced operating and maintenance costs offered with electric actuation.

Exlar actuators are unique in the process industry through the integration of electric servo motors and planetary roller screws typically used in the motion control industry. Fully utilizing the physics of power and motion, of roller screws are unmatched

at converting rotary torque into linear motion. Unlike acme or ball screws, roller screws are capable of carrying heavy loads and allowing rotational speeds in excess of 5000 rpm in the most arduous conditions.

This makes roller screws integrated with servo motors the ideal choice for demanding, continuous-duty final control element environments.



Compare a similar size ball screw to Exlar's planetary roller screw design and see many more contact points on the roller screw. This results in up to 15 times the load-carrying capacity of ball screws and improved stiffness.

The Tritex Actuator series consists of both linear and rotary servo-electric actuators, offering a unique combination of high speed, performance and accuracy, in a compact, lightweight package. The Tritex Actuator has speeds up to 25" per second, excellent position accuracy, and 100% continuous duty cycle. High performance is achieved with respect to speed, linearity, load sensitivity, deadband and temperature range.



Tritex II Series Actuators combining servo motor, linear actuator, position controller and servo drive. Linear model shown top and rotary shown right.