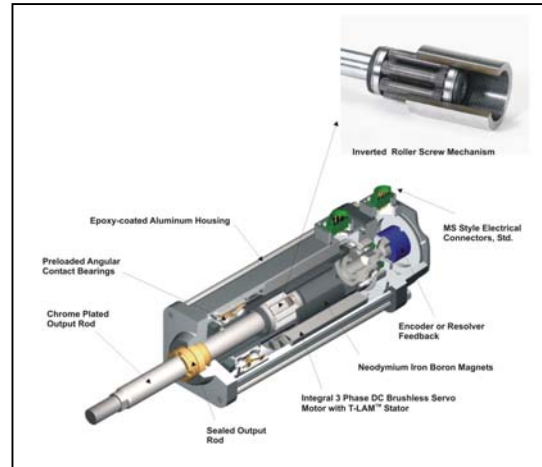


Application News From:

EXLAR

Contact: Bev Nielsen
Exlar Corporation
952-368-3434
email: bnielsen@exlar.com

News Release



Chanhassen, MN – May 7, 2008 – Exlar Actuators – Cleaner, Quieter and Less Expensive to Run in Injection Molding Machines

Whether for vacuum cleaners, hearing aids, or blood filters, engineers who design the tool systems for injection molded plastic parts face challenges familiar to everyone: “How fast; how accurate; how long; and how much?”

In many cases, the right answer to each of these questions has been made possible by re-evaluating the role that hydraulics have traditionally played in that arena. For generations, hydraulic cylinders were the motion control devices of choice for moldmakers. But today, when it comes to creating the precise, rapid motions that typically happen in these molds, electro-mechanical actuators with integrated motors like the Exlar GSX Series are getting more attention. Moldmaking is about creating voids. It's easy to put resin where you want it – the trick is making sure nothing goes where something else needs to be later. Molds generally are male/female assemblies where the male or core forms the finished part's concave surface to create the “nothing”.

Cycle time is where money gets made. Volumetrics, gate design, temperature controls ... mold makers use a host of tools to fill a mold quickly. But after that's done, the mold still has to be cycled. How fast the core can be moved in and out impacts production. Traditional hydraulic cylinders are fast. But in some applications, a GSX actuator can enhance cycle rates by letting related operations get started sooner. This is possible because this kind of actuator constantly feeds the core's actual position and motion status back to the controller.

Longer tool life is an added benefit. Replacing a hydraulic cylinder with an Exlar electro-mechanical actuator virtually guarantees a longer tool life. The actuator allows the core to get inserted faster without slamming the mold together violently. Less stress means longer life.

Retasking the same actuator on different projects is easy. Especially in retrofit situations, it makes sense to address “reuse” in the cost analysis. There are cases where an actuator specified for one mold has more power than needed because it could be reused on another assembly that did require that additional power. Exlar actuators are really simple to retask. You just plug a laptop into the drive, feed it a new motion profile, and it’s ready to go.

How difficult is it to retrofit hydraulic cylinders with electro-mechanical actuators? Exlar actuators truly are “plug and play”. A hydraulic cylinder’s two hoses are replaced with a pair of electrical connections. The mounting flanges are all industry standard. And because the GSX has an internal motor, both have the same form factor. Thus, for comparable stroke lengths, the GSX units fit in the same space.

In 1999 Milacron issued a paper that discussed the rationale for their all-electric injection molding machines. In it, they recounted the advantages of digital electro-mechanical actuators over hydraulic motion control systems their industry traditionally used. These advantages include:

- ◆ Accuracy & Repeatability – hydraulic fluid can heat up, hoses can expand, and valves can stick. These variables all affect accuracy. Digitally controlled mechanical drives are more accurate over the long haul because they don’t use those components.
- ◆ Set-up Precision – digital control permits operators to set tighter over/under tolerances.
- ◆ Utility Costs – customers have reported a 50-90% power reduction when they compared their own comparably-sized all-electric and hydraulic systems. The actual connected power requirements for their all-electric machines were just 25% of that needed by their hydraulic equivalents.
- ◆ Oil Costs Eliminated -- not only is the initial cost of oil purchase removed from the cost equation, but so are the ongoing costs for monitoring, disposing, and cleanups.
- ◆ Cleanroom Ready – by completely eliminating the possibility of oil leaks, Milacron pointed out that an all-electric machine became the obvious choice for a host of medical, electronic and other such cleanroom applications.
- ◆ Noise Levels – plant noise is always under scrutiny from workers’ compensation insurance agencies. By replacing hydraulics with electro-mechanical motion controls, noise levels on Milacron machines dropped over 30%.

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Exlar Corporation designs, manufactures and sells linear and rotary motion products worldwide. For general product information, contact Exlar Corporation, 1470 Lake Drive West, Chanhassen, MN 55317, phone 952-368-3434, and fax 952-368-4359. Visit our website at www.exlar.com.