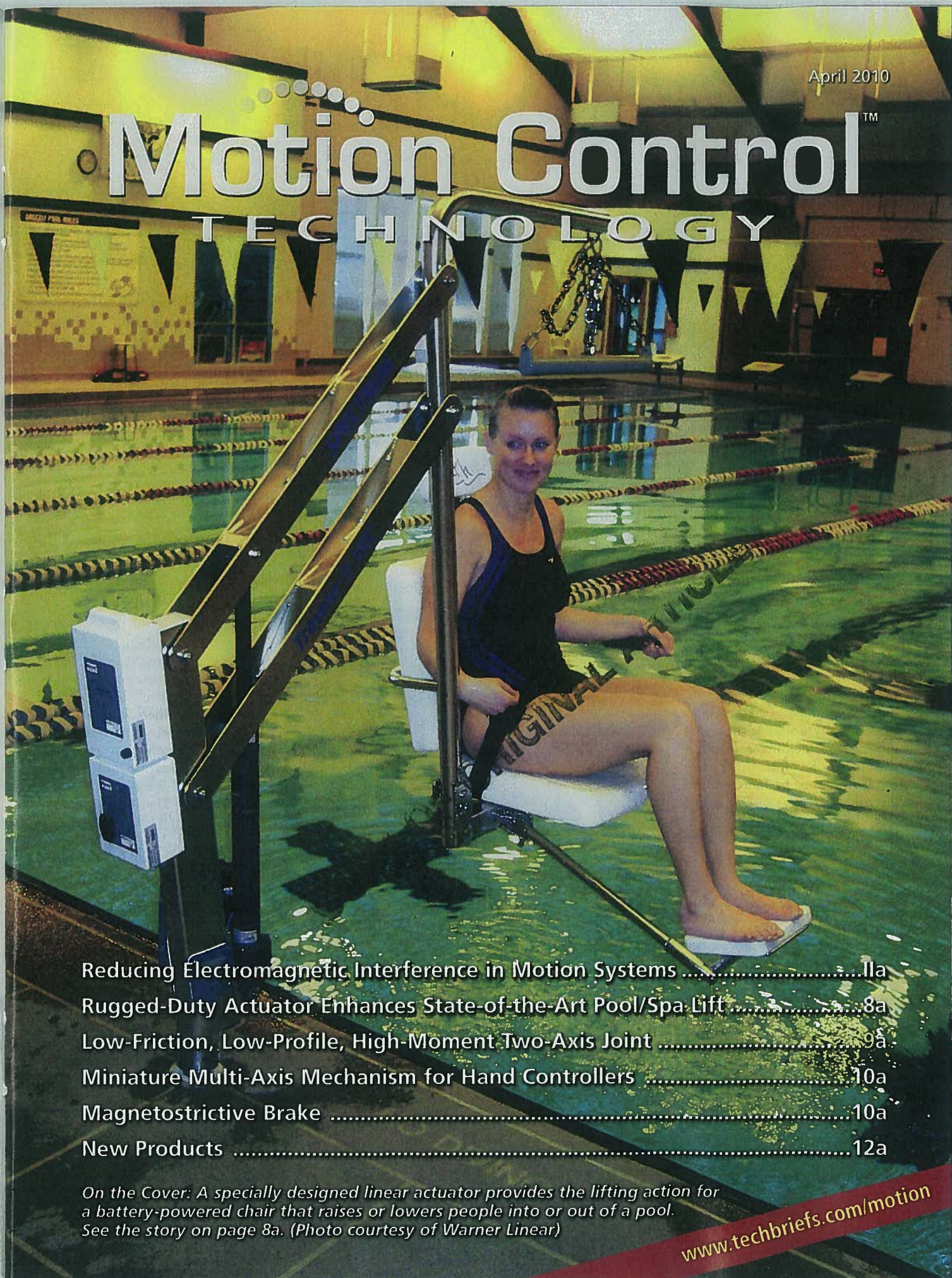


Motion Control™

TECHNOLOGY



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On the Cover: A specially designed linear actuator provides the lifting action for a battery-powered chair that raises or lowers people into or out of a pool. See the story on page 8a. (Photo courtesy of Warner Linear)

Rugged-Duty Actuator Enhances State-of-the-Art Pool/Spa Lift

The benefits of aquatic physical therapy and rehabilitation for those who have difficulty with weight-bearing activities due to arthritis or injury, or those who are overweight, have long been known. There is also a significant population of wheelchair-bound and disabled persons who use pools and spas for recreation or therapeutic purposes. A dilemma for these individuals is how to get in and out of the pool or spa safely.

Various manufacturers offer pool lifts ranging from simple manual slings or lifts powered with water pressure, to commercial-grade, battery powered lifts operated with radio remote control.

Spectrum Products of Missoula, MT, recently elevated the state-of-the-art in battery powered lifts by fitting its Traveler II XRC500 unit with a 500-pound-capacity linear actuator that was specially designed for the application by Warner Linear of Belvidere, IL. The electric linear actuator provides the lifting action of the chair that is raised or lowered into or out of the water.

After two years of joint design and development, Warner Linear and Spectrum Products introduced the new, robust control system in mid-2008, making it the strongest remote-controlled, battery powered lift on the market. The proprietary system is now standard on all of Spectrum's battery powered assisted-access lifts.

How it Works

For the Spectrum lifts, Warner modified its rugged-duty K2x actuator by redesigning its gear ratio to 30:1, which is able to achieve greater lift load capacity combined with slower speeds that give the user better control over the motion of the occupied chair.

Warner also designed a new wireless remote control unit including transmitters, receiver, 24-volt battery pack that plugs into the receiver, plus a battery charger. The compact battery pack pro-



Spectrum Products' Traveler II XRC500 pool lift helps individuals get in and out of a pool or spa safely.

vides more than 95 lifts between charges, rather than the 40-lift capacity of the units previously utilized.

The actuator itself, originally designed for demanding applications in harsh environments such as off-highway vehicles, replaced competitive units that were originally designed for lighter duty applications such as hospital beds and adjustable desks.

"The actuators we used to use were made with a thin, lightweight aluminum sleeve and the slightest dent would render them useless," said Spectrum President Gerald McConnell. "They were our single biggest customer service issue. The new actuators are much more robust."

Several upgrades in the actuators now used on the Spectrum pool lifts include:

- Double the wall thickness of both cover tubes and extension tubes.
- O-ring seals rather than gaskets for longer service life.

- Diecast aluminum housings and powder-coat urethane finishes rather than plastic housings.
- Hardened gears and ball bearings for rugged-duty usage.

The Results

The unit offers 2.5 times the corrosion resistance of previous units - a critical benefit in corrosive poolside environments, according to the company. According to Ben Tiffin, Spectrum's Manager of Engineering, "With previous units, we were experiencing an unacceptable failure rate with no resolution in sight from the vendor," he said. "So far with the new units, we haven't had a single failure. That's significant to us because we pride ourselves on quality and customer service."

The Traveler II swim lifts are ADA/ABA compliant for use in hospitals and rehab facilities, universities with sports medicine programs, commercial therapeutic spas and pools, municipal pools, hotels, health clubs, or even for home use, according to Spectrum. Several states have passed regulations requiring assisted-access lifts for pools and spas in commercial establishments.

For more information, visit <http://info.hotims.com/28052-330>.



A cutaway CAD model of the modified rugged-duty K2x actuator.