LATCHTOOL

FastFlow® within - Fluid Power without the Complications...

NEWS RELEASE

Fluidic Valve Discovery is to Hydraulics and Flow Control as the Transistor was to Electricity and Vacuum Tubes: Patent Enables Unimpeded Disclosure

FastFlow® microhydraulics is a breakthrough in affordable power densities (think pounce per ounce) for motion control and mechatronic systems. It is NOT miniaturized hydraulics...

FastFlow® fluidic valves allow actuators to respond intrinsically to varying loads or rod excursions WITHOUT sensors or processors...

Colorado Springs, CO - June 10, 2009 -- LatchTool Group (LTG) announces the filing of a second patent that covers the workings of their fluidic - annular floating seal valves. The filing, which complements Patent US2008/0079221 A1, clears the "last obstacle to full and open disclosure", says Bob McPherson, cofounder and CEO.

With over 100 members, the Company operates as a virtual organization embracing Open Innovation. Two officers that shaped LatchTool's approach are Josh Hoyt, PhD/MIT founder of Gearhead Associates and Philippe Content formally with Bell Labs now managing director of Sweerts & Vaas.

"Philippe was the first to recognize the analogy between our fluidic valves and the transistor", says McPherson. He adds, "Josh immediately drew a parallel between our development and open-source software's; an origin of Open Innovation."

The patent filing allows the Company to address a vexing paradigm issue:

When you mention regeneration to hydraulic engineers they think of double-acting cylinders and the spool valves that regulate them. Physics enables such cylinders to power stoke in either direction. This requires complex plumbing, a valve manifold, an external reservoir able to hold and a pump able to move a volume of fluid equal to the total volume of the cylinder.

A significant aspect of LatchTool's technology is using the rod-side of a cylinder as the reservoir and FastFlow® valves to provide the regenerative function without plumbing. A small pump able to move only a rod volume of fluid and an accumulator able to hold this amount integrates easily into a self-contained component.

LTG's fluidic valves enable a very small cartridge pump to move a rod volume of fluid quickly at 10,000 psi. At these pressures, the cross-sectional area of a 1-inch cylinder exerts 4 tons of force; a 2-inch cylinder 15 tons! The energy to swage or clamp with these forces is provided by batteries.

A cylinder equipped with FastFlow® valves trades off a double-acting capability for effective fluid management. The swap provides unprecedented power densities for electromechanical systems and fluidic intelligence to otherwise dumb systems.

Two cylinders paired as agonist/antagonist compensate for double-acting functionality.

"It is the paradigm issue of regeneration coupling with double-acting cylinders in an engineer's mind that needs to shift". McPherson goes on to point out that "actuators - devices that push or pull - are essential to nearly all engineered things; the smaller, lighter, smarter and cheaper these power-packages are the better."

FastFlow® is a registered trademark of LatchTool Group, LLC. -

LatchTool Group is a virtual organization operating in four areas: **LTG IP** - licenses technology; ***FastFlow®*** *fluidics* - sells component parts; **HydrAssembly** - contract manufactures for licensees; and, ***FastFlow®*** Syndicate - engineers. See: Synopsis.

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