

Science & Business behind *FastFlow*[®]Microhydraulics

Motorized **microhydraulic** systems replace legacy hydraulics and electro-hydraulics systems for many applications

- **Disruptive Economics:** component architecture – major weight, space & MRO advantages
- **Green & Safe:** non-toxic fluids - no umbilical connections, interchangeable components [...more](#)

Fundamentals...

- a. Fluid Dynamics—Water-Glycerin solutions are microhydraulic mediums for power transmission [*non-Newton fluids used for shock absorption etc...*]
 - i. *Least compressible fluids known*
 - ii. *Non-toxic/eco friendly*
 - iii. *Proprietary formulations sold by operating temperature and function—conditioners added—available worldwide*
- b. Flow Control - Fluidic seal-valves are small, lightweight and inexpensive
 - i. *O-rings engineered as floating seal-valves (patented)*
 - ii. *Annular flow paths - large throughput, low frictional loss*
 - iii. *Enable multiple speed linear actuator to be regulated by fluid logic*
 - iv. *Patented component parts are supplied with an explicit end-license*
- c. Mechanical Construct - Encapsulated hydraulic pump/actuator combinations are gearmotor driven
 - i. *Patented circuits designed to manage fluid while optimizing power transmission*
 - ii. *Fluid & circuitry enclosed in hermetically sealed assemblies*
 - iii. *Retraction is powered by spring or companion antagonist assembly*

Manufacture/Manufacturability...

- a. Investment Foundries - Housings & Component Parts - *licensees*
- b. Micromachining - Component Parts - *licensees*
- c. HydrAssembly - Assembly and filling concurrent with manufacture - *franchisees*

Franchise HydrAssembly plants...

- a. Assembly & filling operations are platform specific
- b. Integrating sensors- wireless telephony, airborne exchanges & remanufacturing combined into an international leasing/business models



See [SiteMap](#) for synopsis; [Summary](#) for plans and programs; [Update](#) for the latest

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