

Products & technologies» Hydraulic systems»

For more than 30 years Microtecnica has been designing, developing and manufacturing hydraulic components for helicopters and aircraft:

- **Hydraulic reservoirs**, bootstrap type (low pressure obtained from high pressure with a differential area piston) or unpressurized. They integrate relief valves, automatic air bleeding valves, visual and electrical signaling with electronic elaboration.
- **Hydraulic packages**. They are packages integrating several hydraulic components such as the power control module for helicopters. This is a spring-pressurized reservoir joined to a manifold for fluid control. High and low pressure fluid is controlled by filters and shut-off, shuttle, check and relief valves. The module is also provided with transducers for pressure, temperature and fluid level monitoring.
- **Actuators** composed of a cylinder and a piston joined to a rod for external load displacement when fluid under pressure is supplied to one of the cylinder chambers. They include locking devices, to maintain position when the system is not pressurized, and switches for monitoring.
- **Hydraulic accumulators**, to store the hydraulic energy required during emergency or transient conditions. They are of the type with a piston separating nitrogen from fluid. For light weight design, some applications make use of composite material and steel for cylinder manufacturing.
- **Valves** to provide specific functions (relief, check, shut-off and pressure reducing valves) and distributors to control fluid flow. To supply the braking devices, metering valves with defined stroke vs. pressure characteristics are produced.
- **Helicopter Blades Hydraulic Lag Dampers** The function is to dissipate the kinetic energy related to the rotor blade angular movement in the rotor plane. It is a passive closed loop hydraulic component with the body connected to the rotor hub and capable of reacting with a load when its rod, connected to the blade, is forced to move in both directions.

MICROTECNICA has also know-how, expertise and analytical tools required to design, develop and integrate complete turn key hydraulic systems for advanced aircraft.

