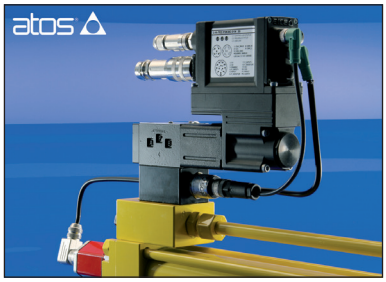

Fig. 1 - P/Q digital controller

Force/Position control by digital electrohydraulics

New digitals in motion control

Latest digital electrohydraulics developments involve the integration of axes cards functions into proportional electrohydraulics, to introduce a new automation architecture based on distributed intelligence and communication network interfacing.

The Atos solution is represented by innovative position/force controls performed by smart digital servoactuators consisting of a low friction servocylinder, with integral position and force transducers, actuated by high performance servoproportional valve with on board digital driver and axis controller (Fig. 1).
In this enhanced configuration a single device can manage both dynamic motion and force/pressure control phases thanks to the development of new powerful algorithms (Fig. 2).

The on board axis controller automatically defines which control is active time by time, according to the position, pressure or load cell transducers' feedback.
The new consistent line of digital controllers manage, in closed-loop, position, speed or force of any electrohydraulic axis in either integrated or panel mounting format.
They are independent units with 2 basic operational modes:

- **slave control**: precisely performs in real-time the motion closed loop control, according to external analog or fieldbus position reference signals
- **motion cycle control**: carries out a pre-programmed position/time motion cycle with closed loop control. The machine's control unit provides digital commands (start/stop/switch-over) to operate the axis working cycle.

The digital controller improves the motion performances and simplify the machine automation by fieldbus interfacing to the machine main control unit through CANopen, PROFIBUS-DP, EtherCAT or POWERLINK communication networks; in addition they are easily programmable by PC, using the same unique Atos software with its intuitive graphic interface.

- **TEZ** axis controllers integrated into proportional 4-way directional servovalves, perform the basic driver functions plus the position closed-loop control of the linear/rotative actuator to which the proportional valve is connected (Fig. 3)
- **Z-ME-KZ** Eurocard motion controllers, specifically designed for electrohydraulics, extend the quantity of available electronic interfaces and functionalities thus obtaining a more flexible and general purpose hydraulic motion control unit (Fig. 4)

For further information look at www.atos.com

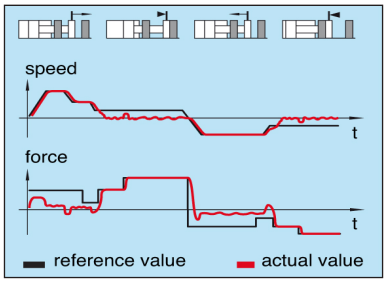

Fig. 2 - Motion profile example

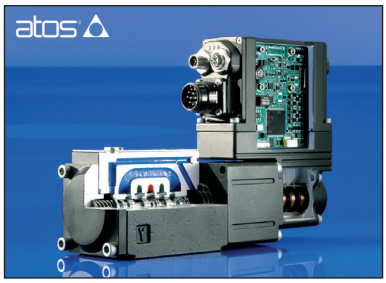

Fig. 3 - Integrated axis controller

Fig. 4 - Eurocard motion controller

P/Q on board digital controller

Force/Position control by digital electrohydraulics

Digital servoactuators represent the innovative solution for smart speed/position & force controls in modern machinery.

They consist of a low friction servo-cylinder, with built-in position and force transducers, actuated by servoproportional valve with on board digital controller that automatically defines the prevalent control according to the position, pressure or load cell's feedbacks.

The wide line of Atos digital controllers, available in integral or panel mounting format, manages in closed-loop any electrohydraulic axis and makes easy the interfacing to the machine control unit through fieldbus communication.

- **TEZ** on- board axis controllers performing the basic driver functions of 4-way directional servoproportional valves plus the motion/force closed-loop control of any linear/rotative actuator actuated by the valve itself
- **Z-ME-KZ** Eurocard axis controllers, specifically designed for electrohydraulics applications, with extended electronic interfaces and functionalities for flexible and general purpose hydraulic motion control

For further information look at www.atos.com