

EDITORIAL

Alternatives

Technical and especially technological progress recorded in recent years has led to a completely different layout and structure of complex equipment compared to what we had until now, although basic structure is about the same. The most important novelty as to structure consists in including mechanics (hydraulics or pneumatics), electronics, sensorics and computer science in a single block. Actually, I described, in general terms, mechatronics.

It is difficult to admit that there can be any complex equipment without a drive system, be it mechanical, electrical, hydraulic or pneumatic, without embedded electronics or without modern computerized control.

Interwining of these sub-parts has been so strong that, for instance, in pneumatics it is difficult to disassociate mechanics from electronics.

Integrating electronics and computer science into hydraulic systems and equipment has started long ago, with great effort, and it represents a quite clear development trend, although many months and years are still necessary until reaching a form accepted by everyone. Little by little the Fluid Power specialist has been forced to get knowledge also in related areas, such as electronics and computer science. As a matter of fact, many electronics engineers have become good mechanics specialists, so that there will be nothing strange for mechanical engineers to become good electronics specialists. This need to expand knowledge has been a must not only for researchers and designers but also for equipment users and maintenance specialists.

Most probably university curricula also need to line up to this trend which manifests internationally.

It is necessary that part of hydraulics to be reconsidered with the idea of combining it with electronics, so that we will not be forced to adjust, again and again, to each other components which are totally different and difficult to integrate. Starting early since the design phase from the need for structural and functional integration of all subsystems, the resulted unit will be easier to supervise, easier to maintain, it will be more ergonomic and more pleasant-looking. The direction of this type of integration will make it possible, in time, for a hydraulic unit to be brought up-to-date only by changes in the electronic or computerized parts of it.



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