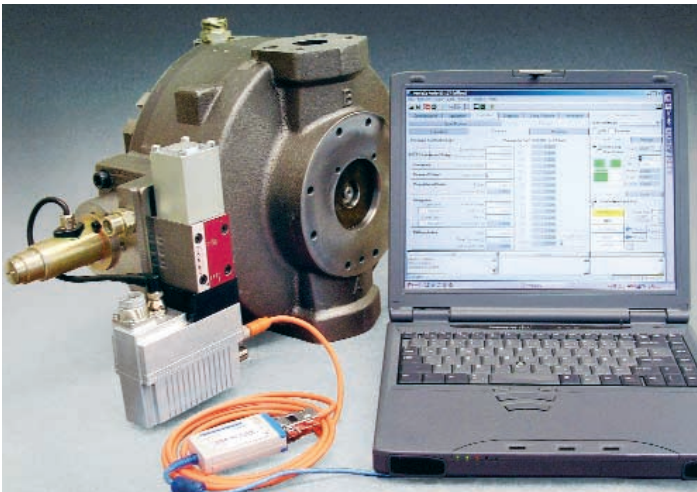


NEWS

FLUID POWER



DIGITAL FUNCTIONALITY: With Moog's new RKP, engineers can use their existing analog PLC, and yet still get the functionality of a digital pump.

HYDRAULICS

Digital Pump Appeals to Machine Makers

Biggest advantage: They can still use existing PLCs

Machine builders who need the performance of digital hydraulics but aren't ready to commit to any particular fieldbus may now have a way of getting the best of both worlds.

A new digital hydraulic pump from Moog Inc. (East Aurora, NY) can provide the advantages of digital control to designers of large machinery without requiring them to abandon their current methods of analog-based programmable logic control (PLC). The new radial piston pump, known as the Moog RKP, could be a boon for makers of plastic injection-molding machines, blow molding machines, metal-forming presses, and die-casting machines, as well as traditional machine tools.

"The biggest advantage of this is that engineers can use their existing analog PLC, and can still get the functionality of a digital pump," notes Michael Sieber, market manager for plastics machinery at Moog (Böblingen, Germany). "They are not obliged to implement CAN (controller area network) or any kind of fieldbus interface in their PLC, which would mean changing the hardware and the structure of the software."

Such capabilities could be critical in plastic injection-molding machines, which often employ as many

as seven or eight hydraulic cylinders in series. Up to now, analog pumps have used only one setting of the pump's pressure controller to run all of those cylinders, which resulted in a performance compromise. Moreover, such analog pumps were typically unable to adjust performance parameters on the fly while the machine operated, requiring instead that technicians shut a machine down and adjust potentiometers.

No compromise

Because the new pump is digital, it offers engineers the ability to simultaneously control a number of hydraulic cylinders and adjust performance parameters on the fly while obtaining real-time diagnostics through the HMI or laptop PC interface.

"This means we can adapt the pump during the cycle to a number of different cylinders," Sieber says. "It gives a better quality of pressure control, and it means that users don't have to compromise over a range of different-sized cylinders."

The new wrinkle in the design of the RKP, however, is its ability to adjust those parameters over the CAN bus (as other digital pumps do) or to employ analog interfaces. Moog engineers believe that the ability to run off analog interfaces is a key, especially for big machinery designers who haven't yet committed to any particular type of fieldbus control. Sieber says that many engineers are hesitant to commit because today's fieldbuses lack the speed needed to close control loops on the fly. The speed issue is especially significant for plastic injection-molding machines, he says.

"We think the next generation of fieldbuses will be fast enough, but right now we don't know which one will be best," Sieber says.

By incorporating analog interfaces, the new pump gives the machine builders the advantage of employing a fieldbus now or later. "You can use this pump with an analog interface now and still have the functionality of a digital pump," Sieber explains. "And you're not obliged to completely modify your PLC or your machine control to implement a CAN interface."

THE NEW PUMP GIVES MACHINE BUILDERS THE ADVANTAGE OF EMPLOYING A FIELDBUS NOW OR LATER.

The new pump, to be introduced at the K-Show 2004 in Düsseldorf, Germany, on Oct. 20, reportedly can adapt to 16 different parameter sets, including adjustment of pressure regulators, defining or operational modes, and selection of pressure sensors. It is available in seven sizes ranging from 19 to 140 cc per revolution with continuous pressures of 4,000-5,000 psi (280-350 bar).

Moog engineers say that they expect the pump to appeal to machine builders who want to use a fieldbus now as well as those who don't yet want to commit.

MOOG

For more information, please contact Moog Inc. Industrial Controls Division telephone: +1-800-272-MOOG (+1-716-687-4954) fax: +1-716-655-1803 e-mail: sales.icd_hyd@moog.com website: www.moog.com/industrial

