

Hydrostatic pump

The PVWC closed-loop, hydrostatic axial piston pump from **Oilgear** features a line with various mechanical, hydraulic, and electrohydraulic servo valve controls available, allowing field in-



terchangeability without disconnecting the pump from the main drive or system piping. Contaminant-resistant and capable of operating with low-viscosity fluids, the PVWC pump offers hardened components for long operational life and two cross-line check valves to protect the pump from overload damage. Other product features include a rugged design, sealed front bearings, thru-shaft availability, continuous speed of 3600 rpm, peak pressure of 5000 psi (350 bar), and low power.

Directional control valves

Sauer-Danfoss' CDS 100 Series Circuit valve joins the firm's Parallel and Tandem valves in the CDS 60 and CDS 100 model sizes. This valve is useful in markets such as road building, with commercial class asphalt pavers, due to its lower pressure drop, which helps improve machine efficiency. It is suited for applications in



which multiple functions operate simultaneously, machine horsepower and pump flow are limited, or flow amplification is needed for fast response. The firm's CDS 60 model includes the addition of enclosed levers and joysticks to provide customers with additional contamination protection for extreme applications. All valve models have expanded to include optional metering spools that allow operators to perform more precise work where sensitive and accurate control is required.

Digital gauge

MICO releases a digital pressure gauge to provide 0.5% terminal point accuracy and a standard pressure range of 0 to 10,000 psi (0 to 690 bar) for use in measuring hydraulic pressures. Terminal



point accuracy, which includes linearity, hysteresis, and repeatability, eliminates sensor offset problems by zeroing the gauge at start-up. Other keypad functions include a maximum and minimum pressure indicator, nine engineering units of measure, and a backlight for viewing the LCD display, which delivers up to five digits. A chemical-resistant case and weatherproof boot guard against dust and water, and the gauge is protected from electromagnetic and radio frequency interference.

Hydraulic rotary actuators

Helac's helical hydraulic rotary actuators are designed to replace multiple components, effectively functioning as rotational device, bearing support, and mounting bracket. The actuators feature torque output to 61,660 lb-ft (83,600 N·m); integral bearings with tre-



mendous radial, moment, and thrust load-carrying capacity; and exceptionally compact configurations. Other characteristics include zero leakage for accurate, drift-free positioning; high resilience to shock loading; various mounting options; 3000 psi (207 bar) operating pressure; and 180° and 360° standard rotations. Custom-engineered solutions are also offered.

Spin-on filters

The AS spin-on filter series from **Parker Hannifin's** Hydraulic Filter Division uses a non-metallic filter cartridge that is removable from the bowl. This coreless element design provides the benefits of cost-effective Microglass filtration without the environmental



impact of discarding metal. The 12AS and 50AS filters feature a reusable bowl and a filter element that is made primarily of nylon and fiberglass. The element core is permanently attached as part of the filter bowl. When replaced, the element reduces disposal costs, eliminates hot drain requirements, can be easily incinerated, and is better suited for landfills. The 500-psi (34 bar) filters are rated up to 50 gal/min (190 L/min), with premium Microglass III elements as standard.

High-pressure pump

The A14VG compact high-pressure pump from the hydraulics technology group of **Bosch Rexroth** meets the requirements for modern concrete mixer drives to excel, with their need for high power density, minimum installation space, and robust design. Available in size 90 for standard mixers and size 110 for larger mixers, the pump has pressure capabilities up to 450 bar (6527 psi), while conforming to the high quality and



safety standards of mobile concrete mixers. The system includes the control and displacement unit. Users can choose between 12 and 24 V, according to the vehicle's voltage. The pump's high-pressure suction and drain line connections are located on the same side, aiding line routing within limited space conditions. It can be controlled remotely from various positions on the mixer, as actuation of the displacement is accomplished directly via an electroproportional pressure reducing valve. Even under dynamic loads such as moving over uneven terrain, the components are subjected to minimum loads due to low mass.

Axial piston pumps

A line of medium-pressure, 280 bar (4060 psi), variable-displacement, axial piston pumps from **Parker Hannifin's** Hydraulic Pump Division are suited for open-circuit applications on mobile equipment. The



pumps use a compact, round housing that is both smaller and quieter than conventional pump designs with comparable capabilities. The pumps are rated for continuous service at the high drive speeds typical of mobile applications. The initial offering includes three models with maximum displacements of 75

cm³/rev (4.58 in³/rev), 100 cm³/rev (6.41 in³/rev) and 140 cm³/rev (8.85 in³/rev). Features include elastomer seals that eliminate gaskets and external leakage, tapered-roller shaft bearings, hydrostatic cam bearings, and simple hydraulic controls with no-leak adjustments.



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Four-wheel-drive assist

MFE 08 Hydrobases with rotating housing from **Poclair Hydraulics** are designed for universal use and meet the demands made by manufacturers of four-wheel-drive trucks with mechanical transmission. By equipping the front wheels with hydrostatic transmission, advantages are presented including



lower vehicle and center of gravity, reduced consumption compared with trucks with two powered wheels, shorter turning radius, and reduced weight. Through the action of the 2 MFE 08 hydrobases, which power the front axle of the truck, manufacturers may offer their customers the option of non-permanent four-wheel drive. Thus the vehicle is used in 4 x 4 mode at low speed and only when strictly necessary. This reduces consumption and increases the life expectancy of the assistance system. The system can be activated and deactivated while in motion.

Piston pump

Oilgear's PVWH open-loop, axial piston pump offers low power for high-performance applications. Available in 10 different sizes with a maximum pressure of 5800 psi (400 bar), users can select a size to match particular design requirements and applications. The pump allows for field interchangeability without disconnecting the drive or system piping. Infinite life sleeve bearings run on wet film, and pressure lubrication improves stability, reliability, repeatability, and performance. A hardening process applied to the control bores maximizes cycling capabilities and increases the



control's life cycle, while other specially treated components provide resistance to contamination and allow the pumps to work in systems requiring continued shifting under high pressures.

Leak-free fitting system

The Uniport 10K hydraulic port/fitting system from **Fluid Line Products** uses a double seal—metal to metal and O-ring—to prevent leakage. The zero gap realized by the cold deformation of the bottom of the cone prevents O-ring extrusion. The stress concentration area is



positioned at the bottom of the part and allows for closer ports resulting in lighter, more compact components. Lighter materials such as aluminum can be used at higher pressures. Anti-fatigue properties are enhanced. The swivel feature reduces overall cost by eliminating the need for adapters.

Medium-duty piston motors

Eaton has expanded its 74300 Series line of fixed-displacement piston motors for medium-duty mobile applications by adding a 29.5 cm³ (1.8 in³) size to its line. The expansion of the series allows users to fine-tune motor speed in applications that drive fans or propel lawn and turf equipment, compact wheel loaders, and other mobile applications. Rated at 210-bar (3045-psi) continuous pressure, the 29.5-cm³ (1.8-in³) piston motor offers approximately 10% more output speed than the current 32.9-cm³ (2.0-in³) piston motor with the same amount of pump flow. The piston motors convert hydraulic energy



supplied by a pump to mechanical energy. They are suited to any application that requires continuous rotary motion at a remote location from the power source. Design features include a shuttle valve, charge pressure valve and speed sensor, as well as SAE mounting flanges and SAE porting. Shaft and porting options are available.

Pressure-reducing valves

Thomas Magnete's Next Generation Proportional Pressure Reducing Valve features increased performance, reduced size, and 25% less cost. The valve was developed to meet a new generation of electrohydraulic valve designs suitable for a variety of mobile and automotive



hydraulic applications. It meets the market's demands for proportional pressures, fast response, minimal electrical power, and compact design requirements, allowing for smaller valve sections. Also from the firm is a High Flow Proportional Pressure Reducing Valve, which provides accurate high flows and pressure control in a small package and is suited to the operation of power shift transmissions, large clutches and brakes, and hydraulic valve and pump control.

Pressure transmitter

The M01 pressure transmitter from **Sensor-Technik** is developed for use in off-highway vehicles. The measuring element is made in thin-film technology on a stainless steel capsule, thus ensuring



a wide range of medium compatibility. To withstand the rough environment caused by extreme applications, the housing and pressure connection are also made of stainless steel. All wetted parts are welded together. The pressure ranges from 0 to 60 bar (0 to 870 psi) to 0 to 800 bar (0 to 11,603 psi). Output signals include 4-20 mA, 0-20 mA, 0-10 V, 0-5 V, and 0.5-4.5 V (ratiometric).