

Hydraulic diagnostic tool

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innovations

Webtec Products - the Cambridgeshire-based specialist manufacturer of hydraulic test equipment and components - is receiving a positive response to its latest design of its new DHM 3 series portable hydraulic multi-meter, particularly across Asia.

The DHM '3' series is a portable instrument, aimed at providing hydraulic technicians with an invaluable tool for diagnosing hydraulic systems on construction and agricultural machinery in much the same way as an electrician would rely on an electric multi-meter.

The 'all-in-one' design includes a built-in loading valve with built-in safety protection and means the hydraulic technician just needs to take one tool onsite rather than several different sensors. The DHM '3' series can measure flow, pressure, peak pressure, temperature, power and volumetric efficiency and runs on a 9V battery. Webtec says that it has been designed to offer 'laboratory' accuracy and is housed in a rugged steel case to protect it when used in the harsh construction environments.



The DHM 3 series portable hydraulic multi-metre is an all-in-one diagnostic tool.

Advanced IQAN Sensors

The latest range of advanced IQAN sensors from Parker Hannifin for manufacturers and end users of mobile hydraulics systems is aimed at improving long term operating performance while reducing overall life cycle costs.

The IQAN range of pressure, temperature, accelerometer, proximity, rotary and tilt sensors use proven and reliable technology, are extremely compact and lightweight, and have been developed to meet the specific needs of the mobile sector.

The units use either sophisticated thin film Hall-effect sensors, or simple but effective reed switch technology. In each case, the sensors are mounted in tough stainless steel or plastic housings, complete with all signal conditioning electronics, and are fully protected against shock, vibration and electro-magnetic interference (EMI). Combined, these features help to make the IQAN products ideal for use in many different mobile and off-highway applications.

Parker claims that the IQAN sensors are designed to be easy to install, with a choice of sealed electrical connectors and mounting options to reduce both build costs for OEMs and subsequent maintenance costs for end users. The sensors can be used under extreme temperature and humidity conditions; for example, the IQAN-ST



The latest range of IQAN sensors from Parker Hannifin aim to improve long term operating performance while reduce overall life cycle costs.

temperature sensor can operate at temperatures from -50 to +150 degrees C, while the IQAN-SP pressure sensor can be used between -40 degrees C and +125 degrees C.

Depending on the model of sensor the latest IQAN products offer a variety of specific advantages, such as extended output signal on the IQAN-ST temperature sensor of 250 to 4750mV, with a pressure rating of between 300 and 700bar. Similarly, the IQAN-SP pressure sensor offers excellent linearity, hysteresis and repeatability characteristics, has a fast response time of 5.0msec and can be used in applications requiring up to 500bar, with an over-pressure rating of up to 1,050bar and a minimum burst pressure rating of 1,500bar.

Quieter, cooler and longer

Improvements in the geometry, surfaces and materials but with unchanged dimensions means that Schaeffler's new X-life single row FAG T7FC tapered roller bearings are quieter, operate at lower temperatures and offer up to 70 percent longer rating life and 20 percent more basic dynamic load rating.

For some applications, where loads are unchanged, customers can use smaller and therefore more cost-effective bearing sizes. The new bearings use through-hardened premium material (rather than case hardened), which gives higher resistance to solid particles. In addition, Schaeffler has modified the logarithmic profile of the raceways and the outside surface of the rollers, which compensates for stress peaks under high loads and any possible misalignment.

Due to the optimised surfaces, an elasto-hydrodynamic lubricant film builds up even at very low speeds. This enables higher loads on the bearing immediately after start up. In addition, significantly reduced dimensional and running tolerances ensure optimum load distribution. Therefore, stress peaks are avoided and material loading is reduced.

Higher dimensional and running accuracies, in combination with improved surface topography, reduce friction and heat to a considerable degree. The improved contact geometry of the inner ring ribs and roller end faces also reduces friction, resulting in less strain on the lubricant inside the bearing. This means maintenance intervals can be extended. The bearings run significantly quieter than conventional bearings.

Schaeffler's X-life single row tapered roller bearings offer high radial and axial load carrying capacity, high rigidity and ease of fitting. The bearings comprise solid inner and outer rings with tapered raceways and tapered rollers, with cages made from pressed sheet steel. The inner ring, together with the cage and rollers, can be fitted separately from the outer ring.



Bore diameters for the X-life bearings are between 45mm and 95mm and the bearings can be used at operating temperatures between -30 degrees C up to 120 degrees C.

Schaeffler's new X-life single row FAG T7FC tapered roller bearings are said to be quieter, cooler and last up to 70 percent longer.

enquiries

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