Electric vehicle company opts for wireless test rigs

A company at the forefront of electric vehicle design and development has supplied a test rig based on a wireless torque sensor to a UK University automotive research facility.

Based in Fareham, Hants, Tirius has been built on pioneering work on an all-electric single seat racing car and a series of record breaking vehicles.

Head of Tirius, Dr Tim Allen, explains: "We are helping the university's research team develop electric drive train technology typically found in 'A-Class' cars. We are currently looking at permanent magnet traction motors in a number of sizes and configurations, with a view to optimising electronic control for each motor type."

The research involves running each motor on a test rig through its full output range and mapping its torque output at many points to build up a performance profile. The design of the controller can then be matched to the motor characteristics. This should be able to ensure that the motor runs

in its optimum operating zone as much as possible, maximises motor life and regenerative braking, minimising wear, and is as energy efficient as possible.

The design of the test rig is said to be quite simple due to a TorqSense torque sensor made by **Sensor Technology**. Its non-contact operation allows rapid set-up during profile building test runs. Extra drag forces are not added to the system, so measurements represent true values and calculations are therefore straightforward. www.sensors.co.uk

Tel: 01869 238400å

Air operated double diaphragm pumps

The Finish Thompson FTI AIR range of Air-Operated Double Diaphragm pumps (AODD) has been expanded following the introduction of new models in materials which are FDA compliant.

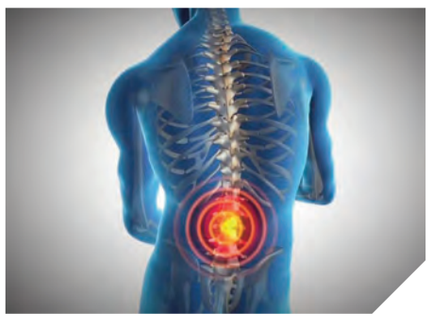
Available from **Michael Smith Engineers** these new pump options are made from polypropylene and 316 Stainless Steel.

The polypropylene option has a simple, durable design with a smooth, easy clean finish

with FDA compliant unfilled polypropylene wetted components and a choice of polypropylene or powder coated aluminium for the non-wetted parts. It has stainless steel fasteners and is available with threaded or ANSI/DIN/ISO flanged connections which vary depending on pump size.

The FDA compliant metallic option features 316L stainless steel wetted components and a smooth satin finish to RA 200µ-in/5.1µm with tri-clamp connections and stainless steel hardware. The non-wetted parts are available in either powder coated aluminium or polypropylene. An ATEX certified option is also available on request.

Tel: 0800 316 7891



Bearings chosen for robotic exoskeletons

Just as the health and strength of real human skeletons are dependent on good decisions, such as diet, to ensure effective movement and longevity, robotic skeletons are dependant on similar wisdom. With specialists in robot software, sensor technology and mechanical engineers working together to drive the development of robotic exoskeletons, every decision is important – including bearing choice.

Bearing specialist, Sapporo Precision is supplying EZO thin-type precision bearings for robotic exoskeleton applications. Apart from taking up less space and being much lighter than standard types, these bearings have the high precision and good rotational accuracy required for robotic exoskeletons, as a result of EZO's advanced manufacturing techniques and quality control.

Additionally, if robotic exoskeletons are to be used in a controlled environment such as a clean room, specialist bearing lubricants will also be required. This reduces risk of contamination caused by greases giving off vapour, a problem known as outgassing. Bearing materials and the lubricants must be carefully chosen to avoid such complications.

Tel: 01993 842 555

LEAN efficiency programme begins

Abingdon-based Crowcon Detection Instruments has begun a three year programme of incorporating LEAN efficiency techniques into the business with the help of LEAN business specialist, **Fedden USP.**

The objectives of the LEAN programme are to improve productivity and customer service levels and increase innovation, which will improve the overall bottom line of the business.

Operations director, Frazer Mackay explains: "I have seen the benefits that LEAN can have on a business, having worked with Fedden USP at my previous company, Siemens Magnet Technology.

"It will give Crowcon a firm strategy to follow and our plan is to offer all 108 employees in the Operations Division some form of LEAN training."

Ten employees have initially undertaken the five day LEAN Business Improvement Techniques (BITs) NVRQ Level 2 Workshop, delivered by Fedden USP in conjunction with MIT Skills.

In parallel with the Workshop, the delegates individually identify and run improvement projects that have been approved by the Crowncon board. Upon completion of these projects, the delegates are awarded an NVRQ nationally-recognised qualification based on their ability to deliver tangible improvement to operational performance.

Tel: 07899971183

Dual zone mixing

Maximising the benefits of renewable energy continues to be a focus for UK water supply companies in addition to many private sector companies who have invested in the anaerobic digestion (AD) process.

An example is Dual Zone Mixing which is part of the Rotamix Dual Zone Mixing System marketed by **System Mix** which has been installed in all of Anglian Water's STC (Sludge Treatment Centres) which includes both their traditional digesters and their THP (Thermal Hydrolysis Plant) systems. A total of eight major treatment centres now handle all of the sludge from around the Anglian Water waste treatment works. This equates to between eight and nine tanks per site, all with multiple pumps.

System Mix says it can also lay claim to mixing all of Southern Water's anaerobic digesters – spanning from Dover across to Southampton.

Tel: 01487 830123