

Welcome to all our valued clients

Welcome to all of our readers of the latest issue of the Treotham Trading newsletter. This issue holds many useful pieces of information across the industries we represent. Our suppliers are leaders in their respective fields and as such are constantly developing and improving their products. We feel that it is necessary to provide this information to all of our clients to help keep you abreast of the latest technology on offer. In this issue you will find updates from Icus about their Triflex R modular flexible energychain systems for robots, the Iglidur UW plain bearings for underwater applications, Drylin Linear Guides and Floating Bearings. Alpha has also been hard at it with the introduction of the Alpha SP+ low backlash planetary gear reducers guaranteeing up to

97% efficiency with input speeds of 6,000rpm. Plus an amazing new Vision Control Unit from Wenglor with it's Colour analysis function that can even detect if there are enough red m&m's in a packet.

We would also like to introduce two new staff members, Jana (Yana) and Ron so that next time you call you can put a face to the name. 2004 has been a busy year for exhibitions, with Treotham Trading participating in all the major exhibitions around Australia. We would like to take this opportunity to thank all of the attendees who visited the Treotham stand and hope to speak with you soon or see you again next year.

And last but certainly not least from all the staff at Treotham we would like to wish everybody a



Merry Christmas and a Happy New Year. Look forward to being of service in 2005!

Mikael Paltoft
Managing Director
Treotham Trading

Long-life modular cable guiding system suits robots

Triflex R is a family of modular flexible energy chain systems for robots that allows freedom of motion across all three dimensions, with the bending radius identical in each direction.

Triflex R system also comprises a minimum number of parts that make it possible to shorten or lengthen the flexible energy chain system at virtually any point.

Additional reinforcements such as steel ropes and spring-action devices are not required. Due to its round shape, Triflex R glides around the outer contour of a robot without becoming hooked or jammed.

Its enclosed design offers protection against weld spray, dirt, filth and its smooth inner contour extends the life of cables.

Designed for endurance, Triflex R has successfully completed 145,000 test cycle times to date (cycle time = 50 sec).

With a unique trailer principle (ball and socket) the energy chain is capable of twisting to a high degree, which guarantees smooth movements in all axes. When complicated movements are carried out, Triflex R also achieves a high amount of flexibility in the 6th axis. Longitudinal axis torsion of up to $\pm 380^\circ$ per metre is also possible.

Fixing points at the centre of the Triflex R are provided in order to be able to install

directional spring action rods within the chain. For applications in which excessive flexibility can be a handicap, complete or partial reinforcement of the Triflex R system can be achieved through the use of these rods. This can reduce the torsion capacity or keep the Triflex R outside the operating areas.

Triflex R is highly suitable for confined installation spaces due to its small bending radii and small partitions and minimum assembly and disassembly times.

Cables and hoses can also be quickly inserted. It is an 'Easy Chain' product, thus it allows cables and hoses to be fed inside the energy chain system without having to open it.

Special connecting elements with snap-on locks also enable an exceptionally quick assembly, which can substantially reduce time spent on maintenance. The connecting element is available with or without strain relief combs for cables.

It can be used at the ends and as an intermediate fastening device. The Triflex R System is also equipped with adapted drill holes for standard types of robot.





Battery powered standalone linear measuring system

Available in length up to 33 metres, the product has an up/down function, pulse factor, selectable decimal point, depositable reference value, and an inch/mm switch over.

This battery powered LCD-Indicator is already combined with a magnetic sensor. The system is predestined for mounting on movable slides and stop-systems.

With a good battery, the system is able to perform for 12 months in continuous operation. Its incremental measuring system 'Z15' measures movements directly, that means there are no pitch errors or measuring errors due to mechanical play.

The distance between magnetic sensor and magnetic tape may be up to 0.8mm without impairing system accuracy. An LCD display has six digits with sign,

and digit height of 8mm. Power supply is a commercial 1.5 V battery and power consumption approximately 0.8mA.

Operation speed is maximum 2.5m/sec, resolution of magnetic sensor rated at 0.1mm. Black plastic panel housing has dimensions of width 70mm x height 47mm.

Rated at IP40 (installed state) protection class, the Z15 has a magnetic sensor with the following technical specifications:

Length of cable: 0.1m to max 1.0m; Protection class: zinc die cast housing IP67; operating temperature: +5°...+50°C; bend radius/cable: min. 60mm; distance sensor/tape: maximum 0.8mm; and any installation position.

Personnel involved in the measuring and cutting of material in the metals and wood industries can expedite such tasks using the Elgo Z15 single axis standalone linear measuring system.

Available in Australia through Treotham Trading, this battery powered unit works without any wiring and embodies a flexible magnetic tape to make angular measurements.

Low backlash planetary gear reducer

Treotham Trading has added a new product line to its growing list of items for which it acts as exclusive distributor in Australia and New Zealand.

The Alpha SP+ low backlash planetary gear reducers are designed to match the high performance characteristics of AC Brushless servo motors.

An optimum gearing geometry guarantees up to 97% efficiency with input speeds up to 6,000rpm.

Operating on a high level of power density, smoothness, low weight and high torsional

rigidity, the SP+ works with reduced torsional backlash – less than one arc-minute of backlash on request.

Vibration of the unit is extremely low, thus affording a significant level of precision in a standard gear head to dramatically increase positioning accuracy.

At 6 dB(A), the SP+ is about four times quieter than its already quiet forerunners in the SP line. Alpha introduced new seals developed specifically for the SP+, with both material and geometry optimised to provide true IP65 (optional IP66) protection.



In addition, the output bearing capacity has been optimised to surpass anything in its class.



Plain bearings for underwater applications

Until recently there was no serious alternative to the large-scale use of graphite bearings in pumps for underwater applications. Even when the advantages of polymer bearings were taken into account, replacing the graphite bearings was an option that had to be ruled out.

Igus has released Iglidur UW plain bearings that reduce the degree of wear compared with graphite bearings by a factor of 10 as a result of further optimisation. Meanwhile, the new material has been tested in long-term endurance tests and has proved to be extremely resistant to abrasion.

Igus of Germany found a high heavy-duty polymer that is clearly superior to the graphite bearings in terms of resistance to wear under water. Determining a suitable location was the first step. But several preparations had to be carried out in advance.

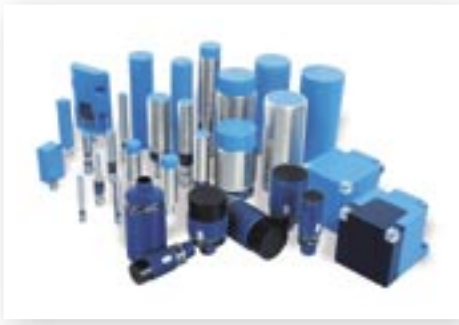
A test bench had to be developed that could be used to test several bearings under water while subjecting the bearings to freely selectable applications of load at the same time. For the duration of the test, which could amount to several months, it was necessary to ensure a contact flow of water around the bearings at all times. The bearings must be accessible and easy to replace, and it must also be easy to check and top up the water level.

On this test bench, all known materials with good chances of success were then tested. These results were then used to draw initial conclusions about the structure of the future underwater bearings. The development of new materials then began: Various basic polymers were combined with suitable fillers. Initially, all new materials had to compete

against one another in an endurance test run over a period of 100 hours.

In the course of developing this underwater bearing, two variants of this material performed equally well. The material Iglidur UW is characterised not only by excellent resistance to wear but also very inexpensive. Versus the graphite bearings, a cost advantage of more than 50% can be achieved for applications in which bearings are required in large quantities. However, the second material can also be an interesting option for some applications: with this material, the thermal stability is significantly higher, which means that its use for applications in the automotive industry close to the engine is quite appropriate.

Iglidur UW plain bearings are manufactured in various sizes as bearing bushes ready to be installed. The manufacturer complies with the special requirements of pump manufacturers and also offers special sizes and special versions. Now that the endurance tests have been successfully completed, the next step involves testing the plain bearings in saltwater and waste water.



Wenglor's tough new range of inductive proximity sensors

A wide variety of applications can now be implemented even faster and more cost effectively with wenglor inductive proximity sensors. Diverse designs in combination with various housing materials and modes of operation leave nothing to be desired.

The Same Switching Distance for All Types of Metal – Inductive All-Metal Sensors

Whether aluminium, copper, brass or steel is involved – the all-metal sensor always has the

same switching distance thanks to the use of a differential transformer. The sensors have a correction factor of 1.

Thanks to its Teflon coating, this wenglor inductive sensor can be used in practically any industrial environment. Welding spatter doesn't adhere to its outside surfaces, making it ideal for use in the automotive industry and aircraft manufacturing. And it's resistant to magnetic fields as well.

The sensors are further distinguished by large switching distances of up to 35 mm.

Made Entirely of Metal for Demanding Tasks – Inductive Solid Metal Sensors

Whether used under high pressure, or under water – the rugged, impact resistant solid metal housing of stainless steel makes this inductive sensor especially tough. It's particularly well

suited for applications with continuously high humidity and wet ambient conditions, for example in the food processing industry or for water jet cleaning. The switching distance is identical for different metals (except stainless steel).

Reliable detection of distances to metal objects, even where extreme contamination prevails – inductive analogue sensors

These inductive sensors fill the bill for monitoring tasks, as well as for measuring distance and thickness.

They detect metal objects within their working range and read out distance as a proportional voltage signal from the analogue output. The analogue signal is identical for different metals.

Floating bearings for better accuracy in machine manufacture

A new generation of DryLin floating bearings made by Igus are designed for use in parallel shaft/rail linear systems to simplify the design and manufacture of machines.

A unique sliding bearing compensates for misalignment between two shafts by as much as six millimetres, and due to a swivelling suspension device the bearing can operate virtually independently of an uneven or unfinished surface.

The possibility to perform service life calculations, a practice traditionally restricted to jobs using ball bearings, provides the designer with an assurance that the application will work satisfactorily.

A swivelling suspension device of the actual bearing allows angular movements of $\pm 2^\circ$. However, the main feature of the bearing is the lateral compensating movement perpendicular to the shaft.

Alignment errors between the two shafts can therefore be effectively eliminated if these

floating bearings are used on one shaft.

An outer housing acts as the mounting surface for the bearing, and the threads and hole spacing allow interchangeability with the Igus DryLin 06 series as well as traditional linear ball bearings.

The actual bearing housing - which contains Iglidur J sliding bearing - is connected to the outer housing by a bearing unit running on a hardened steel shaft. The Iglidur J sliding bearing gives extremely good friction values and wear characteristics in dry running applications.

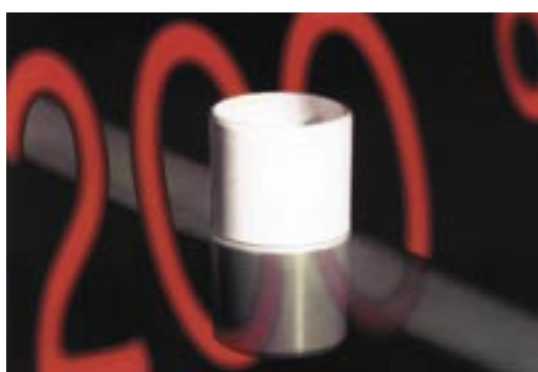
The bearing material Iglidur H is used in the swivel bearing unit. This material is well known for its high loading capacity and extreme resistance to moisture and heat.

Floating bearings are well suited for use in welded or sheet metal fabrications such as a sliding door guard where precision of the bearing mounting surface is often hard to achieve.



Traditionally, the mounting surface would have to be re-milled or re-aligned to obtain the accuracy necessary to fit the bearings.

In addition, with sheet metal or Perspex designs, unwanted distortions often occur which gives unnecessarily high levels of stress on the bearings. With the Igus floating bearings, many of these problems can be prevented in advance or eliminated by retrofitting the existing bearings.



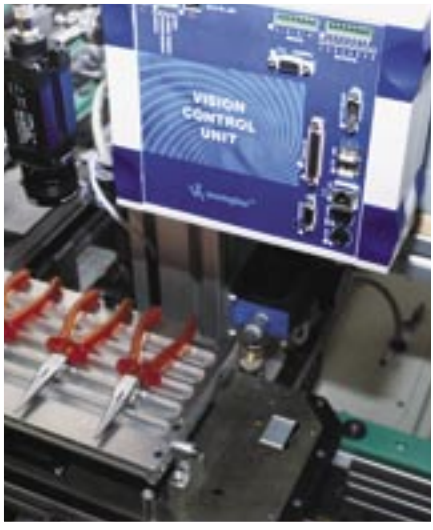
Bearings stand wear in conditions up to 200°C

German company Igus has launched a polymer bearing that can achieve wear resistance in operations reaching 200°C.

Distributed exclusively in Australia by Treotham Trading, the Iglidur V400 opens up a huge application range as the resistance to wear of soft shafts was until now limited to operating temperatures of about 130°C.

The product has a very high level of elasticity, so these bearings are very suitable for applications with vibrations and edge loads.

Insensitive to chemical environments, Iglidur V400 operates with minimal water absorption and is maintenance-free and non-corrosive.



Introducing the future in photoelectric sensors - the Wenglor Vision System

The Wenglor Vision System widely exceeds the well-known sensor functions. Our photoelectric sensors are able to measure at one point. The Vision System evaluates points on a surface, similar to our eye. Our colour sensor recognizes certain colours but the Vision System by dint of the Colour analysis function can also control - e.g. if there are enough red m&m's in a package.

It is also possible to control the shape of different objects with the help of the Shape Detection function. The system masters the position diction, thus knows if an object is in

the right position and gives it a signal if the object isn't in the right position and has to be adjusted.

Information that is encoded through Ecc 200 Data Matrix Codes can even be compared by the system to existing reference codes. For the future many other functions and features are planned as well as developing additional illumination. The system will continuously be enlarged and improved. We will certainly hear much more from the Wenglor Vision System.

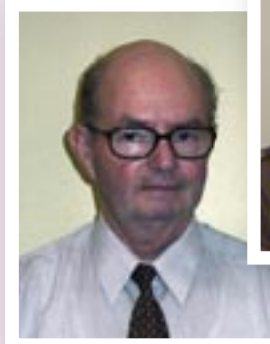
Welcome Ron Slater and Jana Sadlonova

Introducing Ron Slater...

Ron initially trained as a Mechanical Engineer, but then quickly moved from the shop floor to sales positions, where he has spent the last 40 years. Ron's experience covers all facets of industry in the fields of Mechanical, Electrical, Electromechanical and Mechantronic Engineering products and applications.

Introducing Jana Sadlonova...

Jana is welcomed as our new accounts administrator and office manager.



NEW catalogues now available from Treotham Trading



- Flexible Cables Catalogue
- Flexible Conduit Catalogue
- Energy Chains and Chainflex Catalogue.

To obtain a catalogue please call any of our offices below or visit our website.

NEW SOUTH WALES
Unit 36, 9 Powells Road
Brookvale NSW 2100
Phone: (02) 9907 1788
Fax: (02) 9907 1778
Email: info@treotham.com.au

WESTERN AUSTRALIA
Unit 2, 18 Millrose Place
Malaga WA 6090
Phone: (08) 9248 5005
Fax: (08) 9248 5004
Email: info@treotham.com.au

VICTORIA
4 Rings Road
Moorabbin VIC 3189
Phone: (03) 9555 4890
Fax: (03) 9555 6825
Email: info@treotham.com.au

www.treotham.com.au

