

# SPECIFIER

**BEARINGS**

**CAD**

**SPRINGS**

**FASTENERS**

**DRIVES**

**MOTORS**

**PUMPS**

**GEARS**

**PLASTICS**

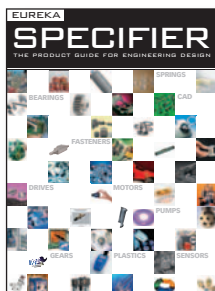
**SENSORS**

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Eureka has always been about innovation. But without the right tools, innovation becomes well-nigh impossible. It is therefore imperative that the modern design engineer knows what is out there to ensure his or her design is as effective as it can possibly be. How often have we heard about a design or project that appeared to be going nowhere, only to be saved by the discovery of a product or technique that allowed it to fulfil its potential? This is where Specifier comes in. By giving Eureka's readers even more information about products and services, we want to ensure that they have a guide to what's new, what's effective and what's relevant to them. The key to your project's success could well be found in the pages of this publication. Can you afford not to read it?

**Paul Fanning**  
Editor

**EUREKA**  
THE MAGAZINE FOR ENGINEERING DESIGN



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**[www.3ds.com/ukisa](http://www.3ds.com/ukisa)**



## **“What about putting a gym in the plane?”**

**Laura, age 10.**

### **With 3D, your customers are your best designers.**

Working in 3D lets you integrate your customers' preferences into your project more easily than ever, even online. Together, you can create, share and experience your ideas - all in 3D. With Dassault Systèmes solutions, your company is empowered by a new, universal language to invent the products of the future.

Discover SolidWorks, CATIA, SIMULIA, DELMIA, ENOVIA and 3DVIA at [www.3ds.com](http://www.3ds.com)

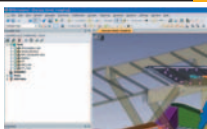


*See what you mean*

# DESIGN SOFTWARE

## 3DVIA Composer - Revolutionise the way you document products

Create interactive product documentation, animation, technical illustrations and more. By reusing digital product



definition data including 3D design data and bills-of-material information, 3DVIA Composer revolutionizes the product documentation process for enterprises of all sizes.

With its easy-to-use, desktop content-creation system, 3DVIA Composer effectively automates processes that are crucial for success in the marketplace. By using 3DVIA Composer, enterprises can quickly and easily automate their deliverable production processes while reducing costs and improving quality.

**E: [tlo@3ds.com](mailto:tlo@3ds.com)**

**T: +44 (0) 247 685 7400**

**[www.3ds.com/ukisa](http://www.3ds.com/ukisa)**

## CATIA – Virtual design for product excellence

CATIA is Dassault Systèmes solution for product design and innovation. Many thousands of companies in multiple industries worldwide have chosen



the virtual design capabilities of CATIA to ensure their products' success. CATIA delivers solutions for enterprises from large OEMs through their supply chains to Small and Medium Businesses. CATIA continues to support customers for production and improving quality in all domains and industries. CATIA supports product engineering from initial specification to product in service in a fully integrated manner.

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## DELMIA – Digital manufacturing and production

DELMIA Digital Manufacturing Solutions allow manufacturers to virtually define, plan, create, monitor and control production



processes. From early process planning and assembly simulation to a complete definition of the production facility and equipment, DELMIA assists companies in optimising efficiency. DELMIA key benefits include: Early definition and analysis of production processes; Collaborative innovation platform throughout the entire production process; Intuitive 3D User Interface; Increased Worker Productivity and Safety; and Ready-to-use Industry Manufacturing and Production processes.

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**T: +44 (0) 247 685 7400**

**[www.3ds.com/ukisa](http://www.3ds.com/ukisa)**

## ENOVIA – Collaborative Product Lifecycle Management

ENOVIA is a PLM solution that delivers and drives collaborative innovation enabling everyone to work within "a single version of the truth". ENOVIA key benefits:



- A single collaborative innovation platform for managing engineering and business intellectual property.
- Online product creation to perform cross-discipline design and engineering.
- Ready-to-use industry proven business processes.
- Intuitive user interface.
- Low Total Cost of Ownership.

**E: [tlo@3ds.com](mailto:tlo@3ds.com)**

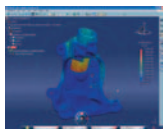
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# DESIGN SOFTWARE

## **SIMULIA – Realistic simulation for engineering quality**

SIMULIA delivers a scalable portfolio of simulation solutions, including CATIA Analysis, the Abaqus product suite for Unified Finite Element



Analysis, multiphysics solutions for insight into challenging engineering problems, and lifecycle management solutions for managing simulation data, processes, and IP. Key benefits include: Capture simulation knowledge, deploy approved methods, manage applications, and share simulation results; Evaluate and improve product performance; Manage design and simulation IP simultaneously; Consolidate legacy applications with scalable simulation; and leverage computing resources for HPC simulation.

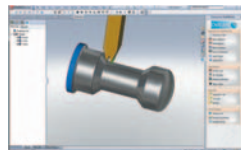
**E: [tlo@3ds.com](mailto:tlo@3ds.com)**

**T: +44 (0) 247 685 7400**

**[www.3ds.com/ukisa](http://www.3ds.com/ukisa)**

## **Delcam updates CAM for SolidWorks**

Delcam has launched the 2011 version of Delcam for SolidWorks, its integrated CAM system for



SolidWorks. This new release includes comprehensive options for the programming of turning and mill-turn equipment, alongside the company's industry-leading technology for drilling and two- through five-axis milling. This expanded range of strategies will allow users to program everything from lathes up to mill-turn equipment, more quickly, more reliably and more easily than with other integrated CAM systems.

**E: [marketing@delcam.com](mailto:marketing@delcam.com)**

**T: 0121 683 1081**

**[www.delcam.com](http://www.delcam.com)**

## **EPLAN Platform goes 3D**

EPLAN Pro Panel offers specific 3D functionalities to define electrical and fluid engineering mounting layouts. The module



starts with the brand-new 3D technology of the EPLAN Platform and facilitates a design process across various disciplines based on a common database. EPLAN Pro Panel can be used to produce standardised mounting and production drawings quickly and easily with associative model views. It offers all necessary functions for populating mounting panels or defining power units and valve blocks, based on EPLAN Electric P8 or EPLAN Fluid.

**E: [info@eplan.co.uk](mailto:info@eplan.co.uk)**

**T: 01709 704 100**

**[www.eplan.co.uk](http://www.eplan.co.uk)**

## **STHENO/PRO aids drawing management**

CAD Schroer has released version 5.0 of STHENO/PRO. From advanced DXF/DWG integration and editing to the creation of



automated drawing routines, the powerful drafting system fits the bill in any Pro/ENGINEER-centric company needing to integrate, edit, generate or maintain 2D drawings.

With a focus on design productivity and usability, STHENO/PRO boasts a new UI and many functional enhancements to further speed up intelligent 2D drafting and editing in a Pro/ENGINEER environment.

**E: [info@cad-schroer.com](mailto:info@cad-schroer.com)**

**T: 01223 460408**

**[www.cad-schroer.com](http://www.cad-schroer.com)**



# FASTENERS & ADHESIVES

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**[www.loctitesolutions.com/uk](http://www.loctitesolutions.com/uk)**



**LOCTITE**

01442 278100  
WWW.LOCTITE.CO.UK

## Advice on adhesives

**Q What kind of surface preparation do we need for adhesives?**

**A** For threadlocking and many sealing compounds, "as received" surfaces with thin films of oil are acceptable. Only the removal of heavy grease or contamination is necessary to achieve adequate adhesive performance. For structural adhesives and instant adhesives, surface treatment is more critical and testing must be run to determine the acceptable level required in order to withstand the environment and the loads being subjected to the bond.

**Q I've been told that I can use an adhesive with an interference fit. Just how does this work?**

**A** Adhesives flow into all the surface irregularities - no matter how minute and allow a full metal-to-metal contact. However, one obvious question is how do you prevent the adhesive from being scraped off the surfaces when using an interference fit? Incorporating a chamfer into the design allows the product to flow into the surface irregularities over the bond area.

**Q How important is mix/ratio accuracy of two part epoxy adhesives?**

**A** The mix ratio of two-part epoxy adhesives is more critical than with acrylic adhesives and is perhaps the single most important processing parameter in order to achieve the best results. In many

cases, 2-part epoxies are available in pre-measured twin cartridge packaging. This arrangement helps eliminate the possibility of the 'incorrect mix' and produces consistent bond strengths.

**Q How should an adhesive be used on a bolt that is being inserted into a blind hole?**

**A** Fitting the well-machined component into a blind hole can cause a major issue. That's because as the bolt is torqued up, the air trapped in the cavity under the bolt becomes pressurised. This air will force its way up the bolt - the threads being the path of least resistance. If adhesive has been applied in the normal manner, then this, too, will be forced out. To overcome this problem, the adhesive should be applied to the base of the hole. Then, as the bolt is screwed down, the adhesive is forced up the threads providing a reliable lock.





# FASTENERS & ADHESIVES

## Even better threadlockers

Medium strength Loctite 243 and high strength Loctite 270 are now more oil tolerant than previous grades, enabling them to be used more readily on 'as received' parts -including those contaminated with engine oils, corrosion prevention oils and cutting fluids. Their temperature resistance has been increased to 180°C and, just as important, the adhesives will cure on passive materials including Trivalent chrome, stainless steel, aluminium, nickel and zinc plated surfaces.



**E: [technicalservice.loctite@uk.henkel.com](mailto:technicalservice.loctite@uk.henkel.com)**  
**T: 01442 278100**

**[www.loctite.co.uk](http://www.loctite.co.uk)**

## Engineering adhesives from Techsil

Techsil has added ThreeBond's structural adhesives to its extensive range of adhesives, sealants and encapsulants. These products are part of Japan's best kept secrets in electronics and automotive sectors and offer real performance benefits for customers. Examples are:



**TB1530** – a one-part, elastic moisture curing adhesive with excellent weather resistance, high adhesion strength, good peel strength, high initial strength and is environmentally friendly.

**TB7738 Cyanoacrylates** – offer ultra high peel and impact resistance. Produced as semi-gel's they are used where conventional instant adhesives would not be considered.

**E: [mick.beeson@techsil.co.uk](mailto:mick.beeson@techsil.co.uk)**  
**T: 01789 773232**

**[www.techsil.co.uk](http://www.techsil.co.uk)**

## Radically improved instant adhesive

Loctite 3090 is a new two-part cyanoacrylate that allows any exposed adhesive outside of the joint to harden within minutes – removing the need for a post-assembly activator. In addition, gap sizes up to 5mm can be readily accommodated and the gel viscosity means it is suitable for vertical or overhead application.



It can be used on plastic, rubber, wood, stone, leather, fabric or metal and can withstand a force of 20N/mm<sup>2</sup>. 3090 comes in a pack containing a dual syringe with seven mixer nozzles.

**E: [technicalservice.loctite@uk.henkel.com](mailto:technicalservice.loctite@uk.henkel.com)**  
**T: 01442 278100**

**[www.loctite.com](http://www.loctite.com)**

## Double-sided filmic tapes

tesa double-sided filmic tapes are ideal for bonding smooth surfaces.



The carriers have a high tear strength, good electrical insulation and the thinner, PET film based products, an ability to conform to irregular surfaces, ensuring a high surface contact to the substrate(s) thus improving adhesion. The tackified acrylic adhesive provides a high performance bond and holding power. Additional benefits are a temperature resistance range from -40°C up to 200°C, excellent resistance to humidity, chemicals and solvents, UV light as well as plasticisers.

**E: [ukenquiry@tesa.com](mailto:ukenquiry@tesa.com)**  
**T: 01908 500235**

**[www.tesa.co.uk](http://www.tesa.co.uk)**

# FASTENERS & ADHESIVES

## Double-sided foam tapes

A range of high-performance, double-sided foam tapes with exceptional bonding characteristics, temperature and solvent resistance that makes them suitable for exterior applications, is available from tesa UK. Gaps resulting from design tolerances and uneven surfaces can be accommodated by the closed cell foam backing, which also offers dampening and shock absorption. Additionally the foam compensates for the thermal expansion and contraction of dissimilar materials. Recently granted TÜV and UL 1703 certificates for this group of products confirm their suitability for use in solar panel construction and outdoor applications.



**E: [ukenquiry@tesa.com](mailto:ukenquiry@tesa.com)**  
**T: 01908 500235**

**[www.tesa.co.uk](http://www.tesa.co.uk)**

## New preferential series line-Q!

Line-Q drives from TOX offer the known advantages of the pneumo-hydraulic TOX-Powerpackages: power supply and handling like a pneumatic cylinder, but also provide power and press force like a hydraulic cylinder; pure pneumatic operation but with reduced consumption and consequently utmost energy efficiency. Additionally they come with short delivery dates and attractive pricing of the preferential series. They are guaranteed for 10 million strokes within 12 months without shift limitation. 10-277 kN Press force at 6 bar air pressure. Total stroke 100 and 200 mm, power stroke 12 to 52mm, Working air pressure is 2- 6 bar.



**E: [sales@tox-uk.com](mailto:sales@tox-uk.com)**  
**T: 01785 887903**

**[www.tox-uk.com](http://www.tox-uk.com)**

## Heat-activated films

Heat activated adhesive films are thermosetting products based on a phenolic resin and nitrile rubber. They are not tacky at room temperature and require a combination of heat and pressure. After curing they offer a very high bond strength – up to 5 times that of normal pressure-sensitive, double-sided tapes, temperature resistance from -50°C to 500°C, excellent ageing, chemical and solvent resistance, as well as being both flexible and elastic due to the rubber component. tesa HAF films are suitable for bonding metal, glass, wood, textiles and plastics.



**E: [ukenquiry@tesa.com](mailto:ukenquiry@tesa.com)**  
**T: 01908 500235**

**[www.tesa.co.uk](http://www.tesa.co.uk)**

## Tailored pressforces with standard components

The supply and power spectrum of TOX Presses comprises the large range from 0,5 to 2000 kN pressforce. Based on a thoroughly standardised component and module construction kit, tailored presses can be built for a universal and flexible application and use. Alternatively the presses can be equipped with three different drives: TOX-Powerpackage (pneumo-hydraulic drive cylinder), TOX hydraulic cylinder, TOX-ElectricDrive (electro-mechanic servo drive unit with pressforce from 0,5 to 400 kN). These drive modules are installed in most different press series so that, with the help of the construction kit, the perfect press can be configured for each application.



**E: [sales@tox-uk.com](mailto:sales@tox-uk.com)**  
**T: 01785 887903**

**[www.tox-uk.com](http://www.tox-uk.com)**

# FASTENERS & ADHESIVES

## The simple way to make wheels safe

Wheel nuts loosen while driving. This unfortunate and long standing truth can lead to a wheel falling off, which can result in disastrous consequences.

Now there is a simple and cost-effective way to ensure that a vehicle has safe wheels – a solution that will increase the competitiveness of the vehicle and enhance your safety reputation.

Based on our patented wedge locking technology, the Nord-Lock wheel nut secures wheels by maintaining a high clamp force under severe operating conditions. A tightened Nord-Lock wheel nut cannot loosen by itself.

**E: [enquiries@nord-lock.co.uk](mailto:enquiries@nord-lock.co.uk)**

**T: 01980 847129**



**[www.safe-wheels.com](http://www.safe-wheels.com)**

## Adhesive has exceptionally high thermal conductivity

Master Bond

EP21AN is a two-part epoxy resin system with a thermal conductivity >22Btu inch ft<sup>2</sup> hr°F.

Its dielectric strength of >400 volts/mil and volume resistivity

>10<sup>13</sup> ohm cm make

it an outstanding electrical insulator.

It has a non-critical one-to-one mix ratio by weight or volume and cures readily at ambient temperatures. Its coefficient of thermal expansion is 18-20 x 10<sup>-6</sup> in/in/°C.

<http://masterbond.com/tds/ep21an.html>

**E: [technical@masterbond.com](mailto:technical@masterbond.com)**

**T: +1 201 343 8983**



**[www.masterbond.com](http://www.masterbond.com)**

## Lower costs for maintenance and repair

NORD-LOCK offers a safe bolt locking system that does not rely on traditional techniques to secure the fastener. This system uses tension instead of friction to secure bolted joints. The proven wedge locking method, meeting DIN 25201, is superior to any traditional method.

The NORD-LOCK system incorporates a pair of washers that have cam faces on one side with a cam angle 'α' greater than the thread angle 'β'. In addition, there are radical teeth on the opposite side. The pre-assembled washers are installed in pairs, cam face to cam face.

**E: [enquiries@nord-lock.co.uk](mailto:enquiries@nord-lock.co.uk)**

**T: 01980 847129**



**[www.nord-lock.com](http://www.nord-lock.com)**

## Non-drip adhesive meets NASA specifications

Master Bond's EP21ND-LO is a versatile, two-component, room-temperature-curing epoxy adhesive. It offers superior durability, excellent dimensional stability, and outstanding chemical resistance. EP21ND-LO has the unusual characteristic of being able to adjust the properties of the cured system if the mix ratio is altered. Adding more part A (e.g., 2:1 mix ratio) will give a more rigid cure, while adding more part B (e.g., 1:2 mix ratio) gives a more forgiving cure. Additionally, EP21ND-LO can be applied without sagging or dripping even on vertical surfaces.

[http://www.masterbond.com/lp/tabs/tp\\_pp\\_lowoutgas.html](http://www.masterbond.com/lp/tabs/tp_pp_lowoutgas.html)

**E: [technical@masterbond.com](mailto:technical@masterbond.com)**

**T: +1 201 343 8983**

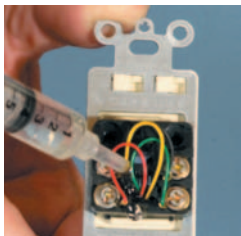


**[www.masterbond.com](http://www.masterbond.com)**

# FASTENERS & ADHESIVES

## Epoxy potting compound has low viscosity and high flexibility

Master Bond EP30FL is a two-component, flexibilized epoxy potting/encapsulation compound for high performance applications. EP30FL has superior electrical insulation properties and resistance to impact. It is formulated to cure at room temperatures and has exceptionally low shrinkage after cure. EP30FL has high bond strength to similar and dissimilar substrates and will resist 4K to 250°F. Resistance to thermal cycling and shock is outstanding. <http://masterbond.com/tds/ep30fl.html>



**E: [technical@masterbond.com](mailto:technical@masterbond.com)**  
**T: +1 201 343 8983**

**[www.masterbond.com](http://www.masterbond.com)**

## Exceptionally fast epoxy adhesive resists 4K to 400°F

New Master Bond EP51HT is a two-component, room temperature curing epoxy adhesive with a non-critical one-to-one mix ratio by weight or volume. EP51HT has a 5-minute gel time at ambient temperatures. It exhibits excellent bond strength to similar and dissimilar substrates and resists from 4K to 400°F. It offers long-term durability, dimensional stability and resistance to many chemicals. EP51HT does not contain any solvents or diluents and can be applied on vertical surfaces without sagging or dripping. <http://www.masterbond.com/tds/ep51ht.html>



**E: [technical@masterbond.com](mailto:technical@masterbond.com)**  
**T: +1 201 343 8983**

**[www.masterbond.com](http://www.masterbond.com)**

## Epoxy Adhesive Meets 450°F Challenge

Engineers have steadily pushed the performance requirements for adhesives to even higher service temperatures. To meet this challenge, Master Bond has successfully formulated a high-temperature resistant, two-part epoxy adhesive system called EP45HT. This product has been extensively tested and is capable of withstanding long-term exposures at temperatures as high as 400-450°F. Furthermore, it can successfully withstand shorter exposures up to 500-550°F. It also offers a very high glass transition temperature and excellent long-term strength retention at 450°F. <http://masterbond.com/tds/ep45ht.html>

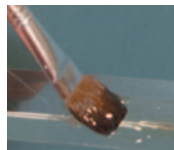


**E: [technical@masterbond.com](mailto:technical@masterbond.com)**  
**T: +1 201 343 8983**

**[www.masterbond.com](http://www.masterbond.com)**

## UV curable adhesive/sealant is easily removable

Disassembly just got easier with Master Bond UV14-3 one-component bonding/sealing compound. It removes easily upon exposure to most conventional solvents such as acetone, MEK, etc. It cures rapidly upon exposure to UV light at room temperatures. Maximum absorption of UV energy takes place in the 250-365 nanometer range. It requires no mixing, and its low viscosity of 8000 cps makes for ease of application. Environmentally friendly, no solvents or other volatiles are released during cure.



<http://masterbond.com/tds/uv14-3.html>

**E: [technical@masterbond.com](mailto:technical@masterbond.com)**  
**T: +1 201 343 8983**

**[www.masterbond.com](http://www.masterbond.com)**

# FASTENERS & ADHESIVES

## New range of A2 & A4 Stainless Steel Fasteners

Anixter Component Solutions has launched a new range of metric Stainless Steel male and female threaded fasteners in A2 and A4 grades; ideal for applications where



enhanced corrosion resistance is paramount. The range covers drive styles including Slotted, Pozi and hexagon socket, as well as Tamper Torx® drive for tamper proof fixing. Head styles include Hexagon, Pan, Countersunk, Button and Cap head. Stainless steel threaded rod (Allthread) is also available in sizes from M3 to M20.

**E: sales@anixtercomponents.com**

**T: 01202 865222**

**www.anixtercomponents.com**

## Sealant Protects Zinc Tri-Chrome Surfaces

Clearlok Polyurethane Sealant from Birchwood Casey provides a clear, hard, high gloss protective finish over trivalent zinc chromate finishes without significant dimensional change.



The Clearlok Polyurethane coating is designed to enhance the durability and sales appeal of the newer trivalent chromates used over zinc plated surfaces. Clearlok enhances the appearance and gloss of the final finish while improving corrosion and scratch resistance. Easily applied using a dip tank process, the Clearlok water-based formula dries quickly and rapidly achieves full hardness and scuff resistance.

**T: 00 +1 800.328.6156**

**www.birchwoodcasey.com**

## Fastener family extended

The family of Atlas Plus+Tite blind threaded steel inserts has expanded with a newly introduced version featuring a straight shank design.



This fastener joins Plus+Tite pre-bulbed inserts in offering superior pullout resistance when installed permanently in plastics or thin sheet metal. Both types provide reliable and reusable threads for "blind" attachment applications, including tubing and extrusions, where only one side is accessible for fastener installation and component assembly. A single mating screw completes the final attachment process.

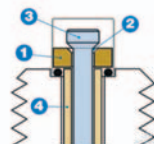
**E: pem@infast.com**

**T: 01246 459355**

**www.pemnet.com**

## EcoStud solves the problem of critical bolting

The EcoStud from Arnold Wragg, provides a cost effective answer to the safety risks caused by bolts and studs losing tension in operating conditions. It



combats fastener fatigue failures and leaking joints by combining a high-quality fastener and an accurate tension controller within a single integral unit.

With bolt or stud failure regularly identified as the cause of serious problems such as leaks in petrochemical plant, maintaining the correct level of tension in studs has the potential to save money and significantly reduce safety risks.

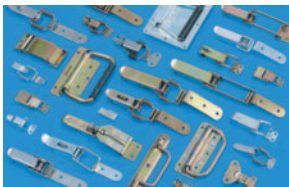
**E: sales@arnold-wragg.com**

**T: + 44 (0) 114 251 9050**

**www.arnold-wragg.com**

## Latches meet range of closure needs

The EMKA 6000 range of toggle latches offers a solution to a wide range of closure needs on boxes, cases, cabinets, access



panels, cladding panels and light assemblies. These toggle latches feature spring (wire) or rigid closure as well as spring loaded vibration resistant mechanisms and may be secured by key locks, padlocks (in various formats), pushbutton release mechanisms or by a simple 180° wing knob. Adjustable claw link operation is also available to aid fitment.

**E: [emka@emka.co.uk](mailto:emka@emka.co.uk)**

**T: 024 7661 6505**

**[www.emka.co.uk](http://www.emka.co.uk)**

## Careful and efficient cleaning

Weber Ultrasonics has developed an innovative 250 kHz ultrasonic generator with a power output of 250 and 500 Watt as well as transducers matched for these applications. The new ultrasonic system allows the realisation of highly efficient, top-quality cleaning systems which are tailored to suit requirements and offer a high level of process safety.



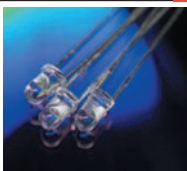
Ultrasound allows parts to be cleaned within short cleaning cycles and in line with demands in an economical, reproducible and environmentally friendly manner for coarse, fine and superfine cleaning.

**T: +49(0) 72 48 92 07-0**

**[www.weber-ultrasonics.de](http://www.weber-ultrasonics.de)**

## The realities of adhesive curing with LEDs

Throughout the evolution of LED curing systems, inaccurate information has led to performance shortfalls in the marketplace and has sometimes cost early adopters both time and money. These misapplications of LED technology have spawned misinformation and an apprehension to embrace the technology. A newly authored white paper available from Intertronics by technology partner DYMAX called 'LED Curing of Light-Curable Materials – Unraveling the Myths and Realities' reviews common misconceptions and realities about LED curing technology.



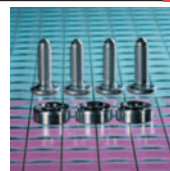
**E: [info@intertronics.co.uk](mailto:info@intertronics.co.uk)**

**T: +44 (0)1865 842842**

**[www.intertronics.co.uk](http://www.intertronics.co.uk)**

## System solution with RIVTEX

The RIVTEX system solution from Arnold Umformtechnik and Arnold & Shinjo is a high-quality alternative to conventional welding. It cuts parts assembly costs whilst assuring every quality requirement.



With the RIVTEX system studs and nuts are pressed into the ready-to-assemble sheet metal parts such that they do not fall out and are characterised by high twisting moments and press-out forces. The fastening process, controlled by intelligent tool technology, remains integrated in the press process and replaces at least one complete operation.

**E: [info@arnold-umformtechnik.de](mailto:info@arnold-umformtechnik.de)**

**T: +49 7947 821-0**

**[www.arnold-uk.com](http://www.arnold-uk.com)**



# HYDRAULICS & PNEUMATICS

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***[www.simrit.com](http://www.simrit.com)***



## We're the best under pressure

### The Simrit sealing programme for Pumps and Compressors

When your pumps are working under high pressure, you need to be able to depend on reliable sealing technology. This includes the innovative Simrit Premium Pressure Seal. With its patented sealing lip, even dynamic pressures of up to 10 bar are no reason for concern. The friction-reduced build also ensures higher performance

with lower energy use, as well as a long sealing service life. Our application-specific solutions, such as Simmerrings, diaphragms and moulded parts complement these innovative products to form a high-performance complete programme for pumps and compressors under high pressure 24/7.

Would you like more information?

Contact us or our Preferred

Distributors on:

Phone + 44 (0) 1455 204 444

info@simrit.com

[www.simrit.com](http://www.simrit.com)

Your Technology Specialist

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## Compact industrial piston accumulator up to 350 bar

Simrit's newly developed industrial piston accumulator has been optimised for weight and installation space. By using modern technologies and highly rigid materials, it has been possible to construct



a piston accumulator which offers a very high specific performance with a maximum operating pressure of 350 bar.

The hydro piston accumulators are produced with standard accumulator volumes of 2, 4 and 5.7 l. Due to their minimal weight and compact designs, they are also easy to fit and remove and are therefore very maintenance-friendly.

**E: [info@simrit.com](mailto:info@simrit.com)**

**T: 01455 204 403**

**[www.simrit.com](http://www.simrit.com)**

## Sealing elements meet high requirements

Simrit's Forseal range of PTFE U-packings is a range of piston rod seals and rod seals that can be pressurised on one side, are made of PTFE, and



feature metallic pretension springs. PTFE's all-round properties mean that Forseal U-packings are highly resistant to aggressive media, thermal influences, friction, and wear. These seal rings seal both statically and dynamically at temperatures ranging from minus 200 °C to 260 °C. In the event of thermal expansion, optimum contact pressure is ensured.

**E: [info@simrit.com](mailto:info@simrit.com)**

**T: 01455 204 403**

**[www.simrit.com](http://www.simrit.com)**

## Surface treatment eliminates sticking

RFN (Reduced Friction by Nanotechnology) is able to modify elastomer materials in a way



that not only drastically reduces the coefficient of friction and, consequently, sticking effects, but also keeps it virtually constant over the entire service life of the component.

The majority of armatures in modern solenoid valves are elastomer composite parts. The contact area, contact pressure force, material, chemistry of the surface, and the lubricating media all have a direct influence on the sticking effect, which RFN minimises.

**E: [info@simrit.com](mailto:info@simrit.com)**

**T: 01455 204 403**

**[www.simrit.com](http://www.simrit.com)**

## Damping of pneumatic cylinders optimised

VDMA and ISO pneumatic cylinders with pneumatic end-of-stroke damping generally come with a cylinder cover structure



that is relatively difficult to manufacture and comprises between 2 and 3 seals. Problems associated with this can be overcome using Damp and Seal, a seal that was recently developed by Simrit. Damp & Seal damps the piston thrust, statically seals the cylinder cover and dynamically seals the inner diameter of the damping pin that is connected to the piston. A buffer that faces the pressure chamber damps the mechanical thrust of the piston at the end of the stroke.

**E: [info@simrit.com](mailto:info@simrit.com)**

**T: 01455 204 403**

**[www.simrit.com](http://www.simrit.com)**

## Condensate Discharge Made Simple

Thorite's Bekomat range of modular condensate discharge units bring a wide range of benefits to the perennial problem of removing water and oil contaminants from compressed air installations. Three models are available, Bekomat 31, 32 & 33, dependent on system capacity, but each model incorporates similar advanced design features: These include fast installation and even faster maintenance, as the complete replacement of all wearing and pressurised parts is achieved with just one quick-release connection.



**E: ross.gowler@thorite.co.uk**  
**T: 01274 663471**

**www.thorite.co.uk**

## Valves prevent wasteful venting

Developed for use in the food, beverage and pharmaceutical industries, Burkert's Type 8690 EEx valve control heads provide a decentralised method of opening and closing of process valves automatically, eliminating the need for the wasteful venting of control air normally associated with pneumatic tubing between the process valve and its related control solenoid valve. The control heads integrate electrical and pneumatic control components as well as position feedback units and, optionally, field bus interfaces for AS-Interface or DeviceNet.



**E: salesuk@burkert.com**  
**T: 01453 731353**

**www.burkert.co.uk**

## ARO-Flo Series clears the air for any tool and any application

The ARO Fluid Technologies business of Ingersoll Rand is releasing an expanded and improved ARO-Flo Series of filters, regulators and lubricators to clean and lubricate air for use with pneumatic tools. The upgraded line includes a new size and a new completely modular design that provides easier assembly and maintenance of the units and allows for more customisation to meet specifications of various applications. The products come in four series, varying in port size and maximum flow for optimal fit to the application and tools used.



**T: 01942 257171**

**www.ingersollrandproducts.com**

## MISUMI offers additional thread design

MISUMI Europa has expanded its range of hydraulic and pneumatic manifold blocks to include a new thread design. The company's new brochure introduces G-manifolds, manifold blocks with the new 'G' type designation that are compatible with ISO 228 parallel threads (ISO 228: Pipe threads where pressure-tight joints are not made on the threads). The new cylindrical pipe thread allows a non-sealing connection to be made when used with sealing components such as O-rings.



**E: sales@misumi-europe.com**  
**T: +44 (0) 20 305 148 09**

**www.misumi-europe.com**

# MATERIALS

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ALFATER the versatile TPV for soft touch and flexibility <a href="http://www.albis.com">www.albis.com</a>	23		

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***[www.distrupol.com](http://www.distrupol.com)***



Product Information Centre

0845 200 30 40  
WWW.DISTRUPOL.COM

## Plastic material selection made easy

### **Q Where do I start in selecting the right material for an application?**

**A** When considering material choice, you must understand the expectations of the end user and the key performance criteria of the part. The more questions and the earlier you ask them the better, ensuring correct polymer selection from the beginning. Common considerations include the cost of the finished product, the mechanical performance required (loading, stress, rigidity), environmental exposure (chemicals, extreme temperatures or weathering) and service life. Then you need to consider colour, assembly techniques and any approvals required (e.g. food, medical or flammability).

With thousands of polymer grades available, a huge range of products can be manufactured using plastics and the good news is that you are not alone. Material experts are available to help simplify the decision making process and ensure that your product is ultimately fit for function.

### **Q Where can I go for impartial advice on material selection?**

**A** Distrupol is completely independent so is well placed to offer truly unbiased support. As a European leader in the distribution of polymers, Distrupol can boast a large portfolio of materials ranging from commodity polyolefins to more exotic engineering thermoplastics, rubbers & elastomers.

### **Q What other technical support is available?**

**A** Distrupol offers assistance in conceptual design, part & material flow analysis, tooling design, sampling & process optimisation as well as technical training.

### **Q What resources are available?**

**A** Distrupol places an emphasis on technical support with a dedicated team of experienced polymer engineers (field and office based) able to help from the start to the conclusion of a project.

This is supplemented by online resources based around the website [www.distrupol.com](http://www.distrupol.com).

The Product Information Centre (PIC) is one of the most comprehensive online technical resources in the plastics industry, allowing users to select datasheets, compare data on up to 5 products and select grades by generic type or material properties.

Unique comparator cards group some of the most popular polymers by attribute (e.g. clear materials, metal replacement polymers) displaying the information in a common format that enables side by side comparison.





# MATERIALS

## Renewably-sourced performance polymers

The range of renewably-sourced (RS) polymers from DuPont™ offers the potential for designers to reduce environmental impact by replacing conventional petroleum-based engineering plastics with no compromise on performance. Sorona® EP, a polyester containing 20-37% renewably-sourced material (derived from corn), offers similar performance and moulding to high performance PBT. Hytrel® RS thermoplastic elastomers with 20-60% renewable content exhibit comparable performance to classic Hytrel®, whereas Zytel® RS long chain nylons based on PA1010 and PA610 have a renewable content of 100% and 63% respectively derived from castor oil. These products are distributed in the UK by Distrupol.



**E: info@distrupol.com**  
**T: 0845 200 30 40**

**www.distrupol.com**

## BPA-free clear alternatives to polycarbonate

NAS & ZYLAR styrene acrylic copolymers from INEOS NOVA are clear alternatives to traditional materials such as polycarbonate, PMMA, PET and clear ABS, offering reduced overall costs to converters & OEMs alike. Key properties include excellent clarity, good practical toughness, low moisture absorption, the potential for substantial process cycle time savings and a lower density than most competing resins. As they are inherently BPA-free, they are suitable for use in health-sensitive applications such as infant care products, adult drinkware, houseware products with food contact and medical devices. These products are distributed in the UK by Distrupol.



**E: info@distrupol.com**  
**T: 0845 200 30 40**

**www.distrupol.com**

## PVL launches 'all-plastic' level and flow switches

A comprehensive new range of 'all-plastic' level and flow switches is available from Pressure Vacuum Level.



Manufactured in either PVC or ABS plastic, and designed for controlling the level or flow of corrosive acids, alkaline fluids or wherever a chemically inert switch is essential, the Kelco range includes in-line flow switches, paddle flow switches and level switches suitable for various pipe sizes and flow rates.

As well as applications in the chemical and water treatment industries, Kelco's 'all-plastic' level and flow switches have potential in many other sectors.

**E: info@pvl.co.uk**  
**T: 01892 664499**

**www.epvl.co.uk**

## New ABS material from BASF

BASF has introduced a new member of its ABS product line (acrylonitrile butadiene styrene copolymer) specifically developed



for the requirements made by electroplating. Called Terluran BX 13074, it is designed for plumbing fixtures, the household sector and automotive construction.

Terluran BX 13074 has a very broad processing window when it comes to its residence time and the temperature of the electroplating bath. It can be used in all commercially available baths, and its high reliability means a lower reject rate.

**T: +49 (0)621 60-0**

**www.basf.com**

# ALBIS

The complete range of injection moulding compounds with expert technical service – we will help you realise your vision!



**ALCOM**<sup>®</sup>

## High Performance in Plastics

- Light diffusion, guides, blocking
- Thermal conductivity
- Metal detectable
- Electrical conductivity
- Electromagnetic shielding
- Customised to your requirement
- Antimicrobial



**SHELFPLUS**<sup>™</sup> O<sub>2</sub>

## Keeps freshness in

- Simple integration into existing production processes
- Potential for generating cost-efficiencies
- Compatible with both PE and PP
- Oxygen Scavenging

## Services and support

- REACH, RoHS, WEEE compliance etc.
- Moldflow/FEA/ANSYS
- Application development and full technical service
- Impartial material selection advice
- Project Management
- Experienced Engineers



**ALTECH**<sup>®</sup>

## For Ideas with Future

- Standard grades, all polymers
- Piano black & custom colours
- Mineral/glass/renewable fillers
- Antistatic
- Alloys
- Recycled



**ALFATER**<sup>XL</sup><sup>®</sup>

## Flexibility in Plastics

- Very easy flow TPV
- Good resistance to aqueous and alkaline substances
- Very good resistance to oil, fat, solvents and acid
- Excellent ozone and weathering resistance
- Soft Touch/Overmoulding



**Tedur**<sup>®</sup>

## Linear PPS

- Very high heat distortion > 260 °C
- Very high continuous use temperature up to 240 °C
- Very high rigidity and hardness
- Flame retardant UL94V-0 at 0.8 mm
- Outstanding hydrolysis and chemical resistance

## Tedur makes light work of metal replacement

The Tedur range of PPS compounds offers:

- Replacement of metals and light metal alloys
- Substitution of high-temperature thermoplastics, thermosets and ceramics
- Optimum weight and cost reduction
- High heat distortion temperature (above 260 °C)
- High continuous-use temperature (up to 240 °C)
- Inherently flame retardant to UL94 V-0 without flame retardant additives
- An excellent insulator with high resistance to chemical attack and hydrolysis
- Good processing properties
- Low water absorption.

**E: albisuk@albis.com**

**T: 01565 755777**



**www.albis.com**

## ALFATER the versatile TPV for soft touch and flexibility

Alfater XL is an extremely versatile, cross-linked TPV- (PP+EPDM) from ALBIS. Its primary applications include technical parts in the automotive industry. Its properties include:

- A wide range of application areas in injection moulding, extrusion, blow moulding; Different grades from Shore A35-D50
- Service Temperature range -40 to +125 °C, short-term up to 150 °C
- Good recovery properties (compression set)
- Low specific gravity (low part weight).

Supplementary types include: UV-stabilised; Reduced oil; Easy flow; Coloured; Copper stabilised; Low emission.

**E: albisuk@albis.com**

**T: 01565 755777**



**www.albis.com**

## ALCOM TC takes the heat out of your project

Heat management is extremely important, particularly in small electronic components. Alcom T-Conductive from Albis is a range of special compounds with improved thermal conductivity. Key characteristics include:

- High thermal conductivity compared to conventional plastics
- Efficient heat transfer, no hot spots
- Reduced assembly of complex parts
- Ability to use higher power levels
- Increase lifetime of parts, components and temperature-sensitive assemblies
- No corrosion
- Available in a range of base polymers.

**E: albisuk@albis.com**

**T: 01565 755777**



**www.albis.com**

## Wear protect thrives in tough applications

ALCOM Wear protect is a range of engineering compounds for demanding applications. It includes lubricated compounds with PTFE, Silicon, Aramid, MoS2, Graphite and more.

- Reduced wear
- Improved friction properties
- Reduced noise
- Longer life-span
- Improved fail-safe properties
- Reduced energy consumption
- Available in a range of base polymers



**E: albisuk@albis.com**

**T: 01565 755777**

**www.albis.com**

## New design increases operating life at lower cost

Converting a complex, three-piece assembly into a single moulded part of high-performance PEI plastic has increased operating life while lowering costs for a radiator sight gauge. Custom-moulded by Minnesota Rubber and Plastic (MR&P), these new sight gauges have significant operating advantages over the previous design. The gauges show coolant level without having to uncap and check the level or use a dipstick. With a threaded base, the single component gauge locks tightly into position and is less prone to leakage.



**E: [commercial@mnrubber.com](mailto:commercial@mnrubber.com)**  
**T: 00 +1 (952) 927-1400**

**[www.mnrubber.com](http://www.mnrubber.com)**

## Ariel specifies Zircotec's coloured ceramic coating

Ariel's new Atom V8 supercar is the first OEM application of Zircotec's Performance Colours<sup>SM</sup> ceramic exhaust coating, which offers both a highly aesthetic and effective thermal barrier. Specified by Ariel to ensure the exposed and visible exhaust system maintains its beauty, the plasma-sprayed coating also prevents heat transfer generated by the 500bhp, three litre V8 engine. Unlike many 'high temperature' paint finishes, Zircotec's coatings offer a long-lasting and zero maintenance solution that has been tested to OEM lifetime standards.



**E: [enquiries@zircotec.com](mailto:enquiries@zircotec.com)**  
**T: +44 (0)1235 54 60 50**

**[www.zircotec.com](http://www.zircotec.com)**

## Stanyl for LED lighting applications

Stanyl PA46 from DSM Engineering Plastics has been selected by AVX Corporation for a new robust and reliable connection system for use in high reliability and harsh environments for wire-to-board applications. The connector system provides a 'gas tight' termination of a discrete wire to the PCB. The insulator housing provides the necessary strain relief on the wire to protect it from extreme mechanical and environment conditions. The insulators for the 9176 Series devices are made from UL94-V0 Stanyl PA 46 from DSM Engineering Plastics.



**E: [CSC-UK.DEP@dsm.com](mailto:CSC-UK.DEP@dsm.com)**  
**T: 00800-74663376**

**[www.dsmep.com](http://www.dsmep.com)**

## SABIC expands random copolymer PP grades

SABIC has expanded its polypropylene (PP) resin portfolio with two new random copolymer PP grades for cast film and biaxially oriented polypropylene (BOPP) film applications. The new grades – SABIC PP 622L and SABIC PP 621P – are engineered to meet growing customer demand for advanced film technologies such as multi-layer constructions, and for improved aesthetics and versatility. They provide significant advantages over homopolymers in a wide range of packaging applications, enabling converters to produce film with high clarity and exceptional sealing and puncture resistance performance.



**T: +31 (46) 7222222**

**[www.sabic-europe.com](http://www.sabic-europe.com)**

# MECHANICAL COMPONENTS

Goss Springs provide safety to the  
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specialist medical equipment 27  
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Compact connectors offer low-cost  
alternative 27  
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Components cater for food industry 27  
[www.elesa.co.uk](http://www.elesa.co.uk)

New options for Harting connectors 28  
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Pressure is off with new valve 28  
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Quick anchoring connector allows  
fitting without rear access 28  
[www.Hylec-APL.com](http://www.Hylec-APL.com)

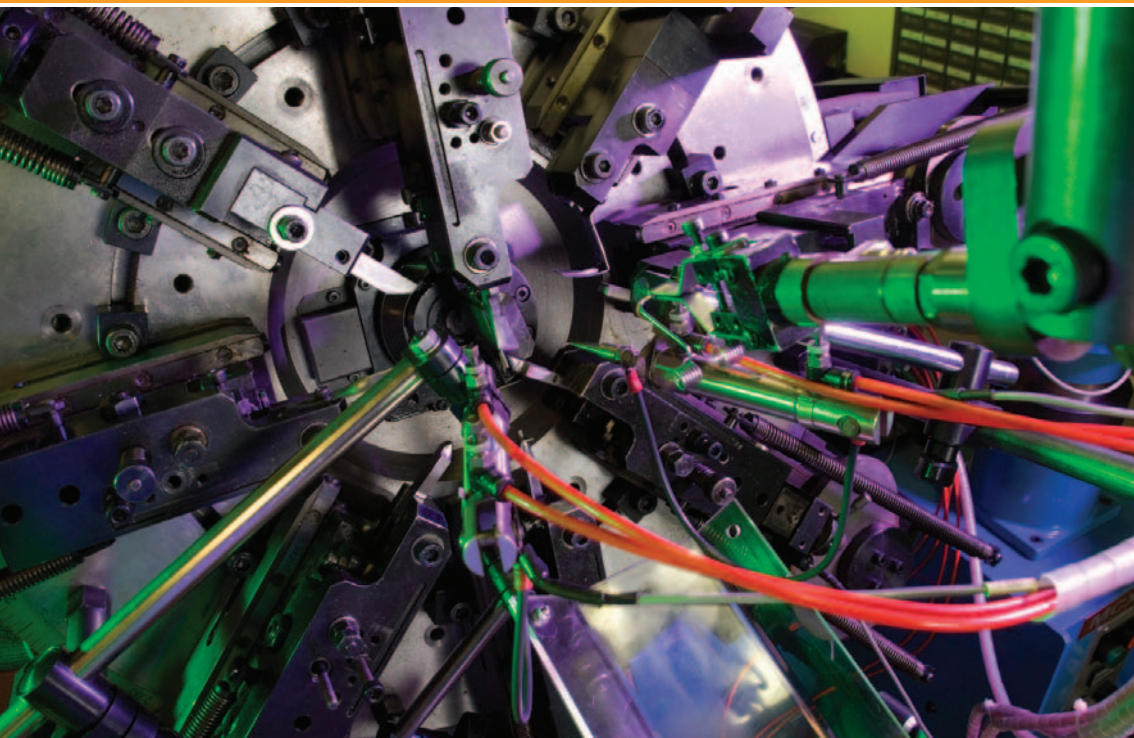
Cannon Connector Guide available 28  
[www.peigenesis.co.uk](http://www.peigenesis.co.uk)

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***[www.goss-springs.co.uk](http://www.goss-springs.co.uk)***





## Standards are important. So is quality.

That's why we are now **Automotive ISO/TS16949** and **Aerospace AS9100** approved.

We specialise in manufacturing small, high precision components and assemblies. Our components range from simple helical springs to complex multi-stage pressings with precious metal contacts. We also offer a design and technical service.

Aerospace	Medical
Automotive	Security
Defence	Sport & Leisure
Electrical	Hobbies & Toys
Electronics	Marine





# MECHANICAL COMPONENTS

## Goss Springs provide safety to the aerospace industry

Aircraft safety is an area in which quality cannot be compromised. Goss Springs are accredited to AS9100 Aerospace standards. Our aerospace customers include the world's leading designer and maker of ejection seats. Goss Springs make a number of critical components that can be found in the seat and parachute system. Each individual item is inspected several times for metallurgic and manufacturing integrity before being certified for use. Whether the requirement is for a simple helical spring or a complex multi-stage pressing with precious metal contacts, Goss Springs offer a wealth of experience and supply customers throughout the United Kingdom, Europe and Worldwide.

**E: sales@goss-springs.com**

**T: 0208 527 5599**



**www.goss-springs.co.uk**

## Compact connectors offer low-cost alternative

The Binder 430 series push-pull connector is a plastic, sub-miniature version of the popular Binder 440 series and uses the same technology.



Made from polyamide, these compact, lightweight and high-performance circular connectors are waterproof to IP67 and shielded with excellent EMI protection and are a viable, low-cost alternative to the traditional and very expensive metal push-pull connectors. Binder push-pull technology offers simple, fast and convenient mating, even in areas of restricted access, while ensuring against accidental disconnection.

**E: info@binder-connector.co.uk**

**T: 01442 257339**

**www.binder-connector.co.uk**

## Goss Springs design and prototype specialist medical equipment

We have been supplying to the medical industry for many years, and were actively involved in the design and prototype of specialist equipment used to burn away cancerous cells. We have the ability to manufacture and inspect springs so small that you need our sophisticated new VMM Machine with up to 200 X Magnification to even see the components. We can offer cleaning & inspection to medical standards, and provide Full Certificates of Conformity upon request. We have recently gained ISO/TS16949 automotive and AS9100 Aerospace accreditation which has already helped us improve procedures and streamline operations.

**E: sales@goss-springs.com**

**T: 0208 527 5599**



**www.goss-springs.co.uk**

## Components cater for food industry

Elesa (UK) offers a full range of standard components for the food processing industry. These range from specialist levelling feet through digital shaft position indicators and digital-analogue position indicators to rod mounting systems for opto-sensors, cameras etc, hinges for access panels and flexible automation components such as conveyor feet, brackets for transfer conveyors. Many of these comprise stainless steel or plastic mouldings with smooth contour designs to facilitate easy cleaning, as well as to eliminate corrosion in aggressive environments.



**E: sales@elesa.co.uk**

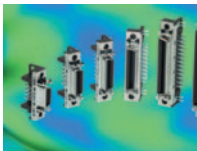
**T: 01526 322670**

**www.elesa.co.uk**

# MECHANICAL COMPONENTS

## New options for Harting connectors

Three new bellows-type surface-mount (SMC) female right-angled connectors have been added to the Harting har-mik(R) family of miniature D 1.27 mm pitch connectors.



Designed for cable-to-board applications where space saving and high data transfer rates are demanded, the new variants complete the har-mik(R) bellows SMC portfolio by offering 20, 50 and 68 poles, respectively. Availability of these new connectors will ease automated assembly, since they can be terminated in the same solder reflow process as all other board-mounted SMC components.

**E: sales@harting.co.uk**  
**T: 01604 827500**

**www.harting.co.uk**

## Quick anchoring connector allows fitting without rear access

Hylec-APL has introduced a new design of weatherproof plug-socket. The TeePlug connector is a



quick anchoring plug designed for mounting on flat or curved surfaces. The plug can be fitted and anchored without access to the rear of the panel and offers IP67 ingress protection. The TeePlug looks like a conventional plug and socket but can be inserted through a bulkhead or pole outer skin, installed and clamped without access to the back of the connector.

**E: sales@hylec-apl.com**  
**T: 01933 234400**

**www.Hylec-APL.com**

## Pressure is off with new valve

A versatile new pressure relief valve for low pressure instrumentation applications up to 400 PSI (27.6 bar) has been launched by the Instrumentation Products Division of Parker Hannifin. CE marked and certified to the highest Category-IV level of the Pressure Equipment Directive (PED) the new HPRV valve is supplied pre-set to any of six pressure ranges from 10 to 400 PSI (0.7 to 27.6 bar). The chosen cracking pressure is laser etched onto the valve body at the factory. Another variant is available for higher pressure applications.



**E: ipd@parker.com**  
**T: 00800 27 27 5374**

**www.parker.com**

## Cannon Connector Guide available

PEI-Genesis has produced Version 4.1 of its ITT Cannon Connector Solutions Guide, containing nearly 300 pages of comprehensive technical information on 23 of ITT's most popular series of connectors. This new catalogue covers circular, rectangular and D-subminiature connectors for use in commercial, industrial, harsh-environment and military applications. A detailed description of each series is followed by a summary of applications and features, together with technical specifications, photographs, dimensioned line diagrams, ordering information and assembly instructions.



**E: peiuk@peigenesis.com**  
**T: 0844 871 6060**

**www.peigenesis.co.uk**

# POWER TRANSMISSION, DRIVES & CONTROLS

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***www.ondrives.com***



# **ondrives**

**Precision Manufacturing**

- VDI/VDE 2612/13 at Class 1 inspection
- Workpiece diameters 5-270mm
- All types of gears can be measured
- Checking to DIN, ISO and AGMA standards
- Topography, runout and pitch & form deviation reporting

## **Quality, Precision and Reliability**

Due to the recent purchase of an Inova Gear inspection machine, Ondrives are now capable of offering expertise within the gear and power transmission markets, that has previously only been available in the high end aerospace industry. We are dedicated to ensuring our customers receive quality products to the highest industry standards.

**Tel: +44 (0)1246 455500**

**sales@ondrives.com**

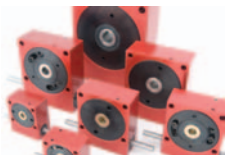
**Fax: +44 (0)1246 455522**

**www.ondrives.com**

*Free Catalogue Available on Request*

## Gearboxes and speed reducers

Ondrives is known for its unique range of red anodised reduction gearboxes, which are available as standard off-the-shelf to suit customers' just-in-time requirements. Precision worm, right angle helical, bevel and bevel tee types, offset and inline spur gear reducers, taper and epicyclic servo reducers and rack/pinion actuators are all standard to the gearbox range. Complete specials are also easily accommodated due to back-up and support from a large 3D CAD drawing department and heavy investments in the latest CNC machinery.



**E: sales@ondrives.com**  
**T: 01246 455500**

**www.ondrives.com**

## Big gears, big thinking from Centa

Centa Transmissions offers even bigger drive solutions. In partnership with gear manufacturer Keller, Centa provides UK customers with large-scale, specialised and complex gears for industry, including cement, construction, food, mining, shipping and steel. Benefit from 140 years combined experience that resolves even the biggest, heaviest and most complex of drive problems, from the smallest spiral bevel gearbox to gears up to 4m diameter, plus bespoke gearboxes weighing up to 160 tons.



**E: post@centa-uk.co.uk**  
**T: 01274 531034**

**www.centaapplications.co.uk**

## Precision gears from Ondrives

Ondrives has launched a new range of power transmission parts, including precision gears, timing pulleys and belts along with sprockets and chains. This new range includes spur gears, anti-backlash spur gears, parallel and crossed helical gears, bevel gears, pinion shafts, worm wheels and gear racks. The pulleys and belts are available in both standard and high torque versions as well as Generation III belts to suit those precision applications. All are available from the latest catalogue as well as online.



**E: sales@ondrives.com**  
**T: 01246 455500**

**www.ondrives.com**

## Pulley and Gear Developments

Specialist CNC machining manufacturer All Pulley & Gear Developments offers a wide range of products, including timing belt pulleys, synchroflex pulleys, spur gears, CNC turning, gear hobbing, gear shaping and a huge variety of specialist timing pulleys. The company manufactures all of its CNC machining products to exacting high standards and can supply products to standard specifications or to bespoke customer drawings if required.



**E: cdf@apgdev.freemove.co.uk**  
**T: 01634 722420**

**www.apgdev.com**



## Davall offers the right gear

Davall Gears, ISO9001, specialises in the design and manufacture of custom and catalogue power transmission products. Imperial and metric gears, Spiradrive, spurs, racks, helicals, bevels (mitre, ratio, straight and spiral), timing belts and pulleys (classic, T series, HTD, Powergrip GT, and PolyChain), shaft couplings, gearboxes (Spiradrive, bevel, spur, helical and worm), and component fixing devices. Products are suitable for inclusion into applications as diverse as machine maintenance, to bespoke machines for OEM manufacturers.

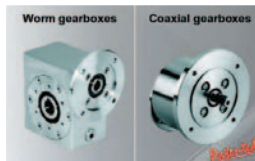


**E: info@davall.co.uk**  
**T: 01707 283100**

**www.davall.co.uk**

## Stainless performance from gearbox ranges

Davall Stock Gears introduces two ranges of standard gearbox, specifically designed for harsh environments applications.



Constructed with a smooth, full stainless steel housing (304), fully sealed, lubricated for life and pressure leak tested, it is designed to be close coupled to a stainless steel AC motor. The two styles of gearboxes have a large choice of reduction ratios available, worm series (right angle) from 7:1 up to a nominal 100:1, and helical series (co-axial) from 3:1 up to 60:1, with power ratings up to 4Kw.

**E: info@davall.co.uk**  
**T: 01707 283131**

**www.davall.co.uk**

## High teeth in mesh factor drives Spiradrive

Spiradrive gear system from Davall Gears generally has 10-12% of its teeth in simultaneous contact with the mating pinion, as opposed to a worm gear which, at the most, has only three teeth in simultaneous contact with its mating worm. This means that the designer can make the teeth of the Spiradrive gear much smaller than those of the worm gear, as the load being transmitted can be spread over a greater number of teeth. In turn, this means a reduction in the overall size of the gear envelope.



**E: info@davall.co.uk**  
**T: 01707 283100**

**www.davall.co.uk**

## Quick and reliable pushbutton connections

EAO is offering a new spring terminal connector technology for Series 04 switches suitable for 22.5mm and 30.5mm mounting.



The Series 04 PIT (push-in terminal), which features a spring terminal connection from Phoenix Contact, reduces assembly times by up to 70% compared to screw terminals, offering reliable, vibration resistant connections with no need for assembly tools.

To achieve a secure connection over the lifetime of the switch, all that is needed is to push the stripped solid conductor into the spring terminal, which applies the correct pressure.

**E: sales.euk@eao.com**  
**T: 01444 236000**

**www.eao.com**



## All-stainless wash-down linear motor

The ServoTube Hygienic range of linear actuators provides powerful, high speed positioning up to 4.7 m/s for aseptic and wash-down applications. Its stainless steel construction is free from dirt traps and suitable for hygienic wash-down environments, while DIN IP69K ingress protection allows cleaning with pressurised jet wash systems. ServoTube Hygienic operates from 3 phase supplies and provides digital incremental encoder and commutation compatible with standard servo drives. Two models offer 744 and 1860N peak force, both with 25 micron repeatability and +/-400 micron position accuracy.



**E: info@copleymotion.com**  
**T: 01268 287070**

**www.copleymotion.com**

## Brevini offers comprehensive range

Brevini Power Transmissions is one of the European leaders in the field of manufacturing power transmission equipment. The company has invested heavily in R&D across its four main product lines: Planetary Gears, PIV Drives, Winch Drives and Posiplan Gears. It now has one of the most comprehensive and flexible ranges of medium and high torque gearboxes in Europe with engineering capabilities to customise products to match customers exact requirements.

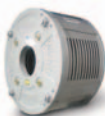


**E: david@dmaeuropa.com**  
**T: 01925 636682**

**www.brevini.co.uk**

## Large clutches keep their cool

The new AquaMaKs range of water-cooled clutches and brakes from Wichita Clutch sets a new standard in heavy duty continuous slip tensioning applications, for use in demanding sectors such as mining, logging and forestry operations, metal processing and metal forming, oil and gas, water/wastewater and offshore/marine. The AquaMaKs are air, hydraulic or spring-set actuated units, integrating non-metallic composite water jackets and superior heat-dissipating copper wear plates that are optimized for heavy-duty continuous slip tension applications. Available in sizes (friction lining O.D.) from 482mm (19") to 914mm (36")



**E: Wichita.info@wichitaclutch.com**  
**T: 01234 350311**

**www.wichitaclutch.com.**

## Pocket PLC provides expanded memory

Galil Motion Control has recently introduced a new version of its popular RIO Pocket PLC. The RIO-47202 Pocket PLC provides 400 lines of program memory and 254 symbolic variables which are twice as many as the standard RIO. It also offers six programmable PID loops, compared to two and is ideal for customers that require more space for application programs providing an intelligent, low-cost and compact solution for handling I/O.



**E: galil@galilmc.com**  
**T: 00 +1 916-626-0101**

**www.galilmc.com**

## New linear drives from Parker-Origa combine power, accuracy and flexibility

The Parker-Origa Division of Parker Hannifin has launched a new range of magnetically coupled pneumatic rodless cylinders. The latest P1Z linear drives are available with a single rod and rotating carriage or with integrated parallel anti-rotating guides, can be used at low speeds from 0.05m/s and feature high thrust forces of up to 942N, giving engineers a powerful, precise and flexible option for building automation, process and handling systems. The P1Z Series has a stainless steel pneumatic cylinder body fixed between two end plates.



**E: [parker.uk@parker.com](mailto:parker.uk@parker.com)**  
**T: 00800 27 27 5374**

**[www.parker.com](http://www.parker.com)**

## Synchronous belt drive for arduous applications

The Conti Synchrochain is an all-round synchronous belt for arduous applications, where it is essential to have not only maximum power transmission, but also maximum resistance to an adverse working environment. It is also a credible alternative to chain drives, as no lubrication is required. In contrast to other synchronous belts which can be noisy and wear out pulleys it is quieter and less aggressive due its CTD profile and the special finishing layer on its working surfaces.



**E: [Richard.Ludlam@eriks.co.uk](mailto:Richard.Ludlam@eriks.co.uk)**  
**T: 0121 508 6000**

**[www.eriks.co.uk](http://www.eriks.co.uk)**

## Hysteresis capping heads for beverage industry

Due to the constant, impact-free slip torque, hysteresis capping heads are better suited for sealing plastic bottles and non-returnable glass bottles than permanent magnet heads. ROBA-capping head components by mayr power transmission are based on the patented ROBA-contitorque hysteresis clutch.



When sealing plastic bottles, the ROBA-capping head hysteresis capping heads with their constant, impact-free slip torque provide decisive advantages. The limit torque can be adjusted linearly quickly and easily. The set value can be read off directly.

**E: [sales@mayr.co.uk](mailto:sales@mayr.co.uk)**  
**T: 01535 663900**

**[www.mayr.co.uk](http://www.mayr.co.uk)**

## Phase adjusting gearboxes regain popularity

Vogel phase shifting gearboxes provide mechanical adjustment to the phase angle of two rotating shafts. Adjustment can be made intermittently or continuously leading to widespread use for print registration, wrapping on packaging machinery and tensioning in paper making plants. Whilst many of these applications have transferred to servo technology in recent years, the use of phase shifting gearboxes is once again gaining ground as customers recognise the value of mechanical simplicity and low cost.



**E: [techdrives@lenze.co.uk](mailto:techdrives@lenze.co.uk)**  
**T: 01234 321320**

**[www.techdrives.co.uk](http://www.techdrives.co.uk)**

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***[www.prototypeprojects.com](http://www.prototypeprojects.com)***



**Tel:** 01763 249760 **Email:** [sales@prototypeprojects.com](mailto:sales@prototypeprojects.com) **Web:** [www.prototypeprojects.com](http://www.prototypeprojects.com)

# RAPID PROTOTYPING

## Rapid prototyping services

Prototype Projects was founded in 1980 to provide a full prototyping service. Following continued investment in technology and skills, it provides the most up to date service for rapid prototyping from concept models through to fully functional pre-production prototypes. Services include:



- Model Making
- Stereolithography (SLA)
- Selective Laser Sintering (SLS)
- Rapid CNC Machining
- RIM Moulding
- Vacuum Casting

**E: [info@prototypeprojects.com](mailto:info@prototypeprojects.com)**

**T: 01763 249760**

**[www.prototypeprojects.com](http://www.prototypeprojects.com)**

## 3T leads the way

3T RPD is leading the way in the supply of metal parts using Direct Metal Laser Sintering (DMLS), and is bringing the reality of Rapid Manufacturing to many of its customers. Negating the need for expensive tooling, DMLS produces lighter weight components with higher performance in shorter leadtimes, opening up new opportunities to many industry sectors. Priding itself on consistently supplying the highest quality parts, 3T continues to offer the fastest possible delivery of not only metal parts but also plastic prototypes, as it has the UK's largest Selective Laser Sintering (SLS) capability.



**E: [post@3trpd.co.uk](mailto:post@3trpd.co.uk)**

**T: 01635 580284**

**[www.3trpd.co.uk](http://www.3trpd.co.uk)**

## ARRK offers glass-like resin

ARRK's Rapid Prototyping division has extended the range of stereolithography materials on offer to clients by adding a new water-clear resin to its line up. The new Huntsman SL 7870 material offers a glass-like appearance along with excellent component strength and an ABS like performance. The material is also dimensionally stable in a humid environment. The new material means ARRK can now offer its clients a choice of 8 different resins.



**E: [info@arrkeurope.com](mailto:info@arrkeurope.com)**

**T: 01452 727799**

**[www.arrkeurope.com](http://www.arrkeurope.com)**

## Tribrid modelling produces phone first

Korean manufacturing giant LG Electronics has recently introduced its first mobile phone designed with Delcam's Tribrid Modelling software. The Waffle phone features a surface texture created in the ArtCAM artistic CAD/CAM program, wrapped around the body of a phone design produced with the PowerSHAPE CAD software. It is expected to be the first of a number of new models that will use the Delcam software to create the distinctive designs needed to build market share in the highly competitive and fashion-conscious mobile phone market.



**E: [marketing@delcam.com](mailto:marketing@delcam.com)**

**T: 0121 683 1081**

**[www.delcam.com](http://www.delcam.com)**

# RAPID PROTOTYPING

## Objet exhibits at K 2010

Objet's rapid prototyping technologies were demonstrated at K 2010 in the form of its Objet Alaris30 and Objet Connex350 printers. The Objet Alaris30™ desktop 3D printer excels in printing fine detail with layers as fine as 28 µm with a very small drop size and a high resolution of 600 x 600 dpi. Small enough to fit onto a desk, the printer is also network-enabled to support multiple users and requires no special electricity. Printing ultra-fine 16-micron layers, the Objet Connex family of 3D printers have the unique ability to simultaneously print multiple materials.



**E: info@objet.com**  
**T: 00 +1 877 489 9449**

**www.objet.com**

## Proto Labs offers design tool

Proto Labs has created The Protomold Torus: a new colourful, educational tool, available to designers and engineers, providing them with a handy and instant reference to the most commonly used features in injection-moulding.



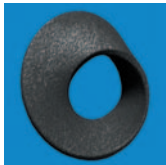
The Protomold service allows designers and engineers with little or no previous knowledge or experience of injection moulding to quickly and simply order precision, moulded parts. A Protomold customer can upload a CAD model to the company's website and in just a few hours, receive a ProtoQuote that includes an accurate price and manufacturability analysis.

**E: customerservice@protolabs.co.uk**  
**T: 01952 607488**

**www.protolabs.co.uk**

## RP Support partners with ALM

RP Support has signed an agreement to work in partnership with Advanced Laser Materials LLC (ALM), an industry leader in the development and manufacture of performance engineered powders for Laser Sintering. This new partnership will provide RP Support access to the complete range of ALM Laser Sintering powders for sole distribution into UK and Ireland and general sale into other European markets. The innovative portfolio of sintering powders is a highly complementary addition to RP Support's current product line and business model for future growth.

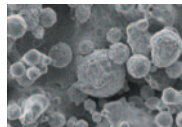


**E: support@rpsupport.co.uk**  
**T: 01296 425665**

**www.rpsupport.co.uk**

## DMLS gains importance

An increasing number of applications involving series production and customised manufacture of parts from titanium powder is reported by EOS, which manufactures additive layer, laser sintering systems. Since the introduction of the material in 2006 for processing in company's EOSINT M 270 system, both the machine technology and the titanium building process have been significantly advanced, leading to higher productivity and improved surface quality of the parts. This has led to increased interest in and use of the technology in a range of industrial and consumer applications.



**E: info@eos.info**  
**T: 01926 623107**

**www.eos.info**



# SENSORS, TEST & MEASUREMENT

Intelligent displays improve time to market <a href="http://www.mms-e.co.uk">www.mms-e.co.uk</a>	40	High sensitivity for differential low pressure measurement <a href="http://www.sensortechinics.com/lba">www.sensortechinics.com/lba</a>	42
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**[www.ifm.com/uk](http://www.ifm.com/uk)**

## Intelligent displays improve time to market

The Intelligent displays of MMS

Electronics Ltd (MMS-e) enable companies to

improve product to market time and reduce engineering cost. Within minutes of opening the box, the EA eDIP displays function immediately. Users can simply create attractive layouts without writing lots of code. By downloading MMS-e's free software, it is easy to create perfect looking layouts, mixing graphics and text freely, importing BMP, JPEG, GIF and animated GIF images and selecting landscape or portrait mode. Serial, SPI, I2C, USB or RS485 interface.

**E: sales@mms-e.co.uk**

**T: 01943 877668**



**www.mms-e.co.uk**

## HAL 104 passes the tests

The new Clare HAL 104 from Seaward combines the performance of a multi-function production line safety tester with load and

power factor measurement for product energy consumption and ratings assessments.

Part of a new and extended range of specialist HAL electrical safety testing instrumentation, this highly versatile all in one tester has been specially designed for the fast and accurate electrical tests required by modern electronic manufacturing environments. The HAL104 also meets the end of line electrical safety compliance tests required by national and international product safety standards.

**E: sales@clareinstruments.com**

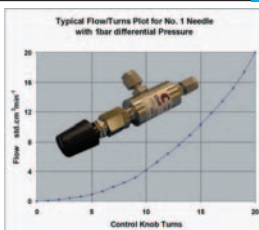
**T: 0191 586 3511**



**www.clare.co.uk**

## The finest needle valves

The CMV range of stainless steel needle valves provide the finest gas flow control over typical ranges of 0-20, 0-1000 & 0-3000 std.cm<sup>3</sup>min<sup>-1</sup> air at 1bar differential pressure.



The valve's opening characteristics are extremely smooth, preventing bursts of gas which disturb delicate or ultra high vacuum instrumentation.

**E: info@chell.co.uk**

**T: 01692 500555**

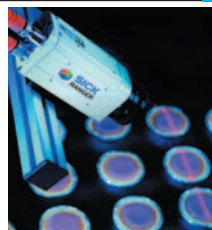
**www.needlevalves.co.uk**

## Sick ColorRanger enables 3D colour imaging

Sick (UK) has enabled high-speed 3D scanning and colour imaging in parallel, with the launch of the cutting-edge ColorRanger E. The newest addition to Sick's range of 3D sensors, the ColorRanger E offers the functionality of a 3D camera with a line-scan colour camera, to provide two modes of quality inspection within a single unit. The new camera can significantly improve the ease, reliability and speed of the quality control process, can measure colour, shape, contrast, volume and height, to ensure product quality.

**E: Andrea.hornby@sick.co.uk**

**T: 01727 831121**



**www.sick.co.uk**

# SENSORS, TEST, MEASUREMENT

## Fluid sensors from ifm

The world-class range of process sensors from sensor specialist ifm electronic is characterised by state-of-the-art technology and materials, manufacturing and quality control. ifm electronic specialises in sensors for flow detection and measurement of gases or liquids; pressure, temperature, valve feedback as well as level sensors. Commonly-used hygienic process connections as well as standard pipe fittings are offered, and many devices feature highly-visible alphanumeric displays in addition to binary and scalable analogue outputs. Solid state electronics and sensing techniques provide long, reliable and low-maintenance operation.



**E: enquiry\_gb@ifm.com**  
**T: 020 8213 0000**

**www.ifm.com/uk**

## New BOA smart camera has enhanced resolution

Available from STEMMER IMAGING in monochrome and colour versions, the BOA M1280 smart camera has a resolution of 1280 x 960 pixels.



The BOA series comprises a robust, fully integrated intelligent vision system designed for harsh environment factory floor deployment. The compact IP67 rated housing of just 44mm x 44mm x 44mm is suitable for washdown environments without a protective enclosure if a specified lens tube is used. A new lens cover is available in two lengths to suit the vast majority of common lenses.

**E: r.thompson@stemmer-imaging.co.uk**  
**T: 01252 780000**

**www.stemmer-imaging.co.uk**

## Position sensors optimised for industry

Specialist sensor manufacturer ifm electronic offers a world-class range of position sensors optimised for industrial environments. State-of-the-art technology is used in inductive sensors dedicated to oily processes in machining, or hot and wet in food manufacture for example. Sensors for washdown areas also form part of the optical device range together with, for example, laser sensors, fibreoptics and laser distance sensors. The position sensor range is further enhanced by magnetic sensors, pneumatic cylinder sensors, capacitive devices to detect non-metallic objects and absolute or incremental encoders.



**E: enquiry\_gb@ifm.com**  
**T: 020 8213 0000**

**www.ifm.com/uk**

## Dual bridge load cells for critical applications

Where data integrity is an essential requirement and space limited, then dual bridge load cells from RDP Electronics Ltd can offer an effective answer.



For critical structural testing and monitoring, a load cell with two separate and independent sets of strain gauges combines sensor redundancy within a single unit. This permit two sets of signal conditioning electronics to be deployed so that in the event of failure of one, the second signal conditioning set maintains system integrity until the fault can be rectified.

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### Intelligent load sensor

LoadSense from Sensor Technology is an intelligent load sensor that can be integrated with a crane hook, or other handling device. It features a single-chip computer for recording and archiving readings, and wireless capability to transfer data. Internal batteries make operation completely autonomous. As such it can be deployed with minimal disruption to operations. LoadSense is built around an intelligent tensile load cell, a hand-held display and a receiver. The load sensor uses proven strain gauge technology, and is available in the ranges 1-10 tonnes.

**E: [info@sensors.co.uk](mailto:info@sensors.co.uk)**  
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TorqSense Transducers from Sensor Technology are the world's first low-cost, non-contact rotary torque sensors designed specifically for OEM applications. Rotary torque is difficult and expensive to measure, but, using existing technology, inexpensive transducers can be produced for situations where monitoring or control of drive mechanisms is required. The transducers feature high resolution and accuracy and excellent noise immunity. Applications include aerospace, automotive (such as electric power steering, motor control) and condition monitoring as well as monitoring of viscosity during mixing processes.

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