

CHEMICAL ENGINEERING AUGUST 2009 IN AUSTRALIA

NEWS

Produced by Engineers Media, Engineers Australia's publishing company, for the IChemE in Australia and the Chemical College of Engineers Australia. The statements made or opinions expressed in this newsletter do not necessarily reflect the views of Engineers Australia or the Institution of Chemical Engineers in Australia.

EDITOR: Dietrich Georg – dgeorg@engineersmedia.com.au



Engineering work on the Kinsevere copper project in the Congo has resumed giving Ausenco the opportunity to finalise its engineering and design services, which had been 80% complete when the project was halted.

Work resumes on mine projects

Brisbane-based engineering services company Ausenco has received the go-ahead for resuming work on two mining and minerals processing projects that had been halted due to the economic downturn.

One of the contracts is for the Kinsevere Stage II copper project, located 27km north of Lubumbashi, the provincial capital city of the southern Katanga province in the Democratic Republic of Congo. The mine is majority owned and operated by Australian based mining company Anvil Mining.

Ausenco has been engaged to finalise the provision of engineering and design services. The project, designed to produce 60,000t/a of copper cathode, was suspended late last year when engineering and design work was approximately 80% complete and most of the major procurement contracts had been let.

Ausenco CEO Zimi Meka said the resumption of its work is an indication of increasing confidence in the base metals

sector. Ausenco's scope under the reappointment has been broadened.

The second contract is for the US\$250 million Martabe project in north Sumatra, Indonesia, for which Ausenco has been selected as the preferred contractor to provide engineering, procurement and construction management (EPCM) services.

The project had been deferred late last year by the mine's previous owner OZ Minerals.

"We are extremely pleased to be working with PT Agincourt Resources (PTAR) and Martabe's new parent company owner G-Resources," Meka said. "Our team has extensive knowledge of the Martabe project, acquired through our previous work as EPCM contractor.

The project is expected to produce approximately 250,000 ounces of gold and 3 million ounces of silver per year during the early years of operation.

The Martabe contract follows a similar

one earlier this year, also in Indonesia, for Newcrest's Gosowong gold extension project.

This month Ausenco reported half year net profit of \$12.2 million from revenue of \$241 million.

While revenue was down by about \$30 million from that of the previous six months, the company sees itself well positioned, with US\$1.1 billion in new front end engineering and design (FEED) and EPCM projects on its books.

CONTENTS

News	1
Chemeca 2009	4
Calendar	8
New products	9

CHEMICAL ENGINEERING AUGUST 2009 IN AUSTRALIA

NEWS

2

Queen's Birthday honour for IChemE president

IChemE president Ian Shott has been appointed a CBE (Commander of the British Empire) in recognition of his services to the chemical engineering industry.

Shott is founder and CEO of pharmaceutical services company Excelsyn and has held a range of senior executive positions in the international pharmaceutical and fine chemicals industries for over 20 years.

He is also chairman of both the Centre for Excellence for Life Sciences and the Industrial Biotechnology Innovation & Growth Team. He became IChemE president in May having previously served as the Institution's deputy president and technical vice-president.

Shott was one of four chemical engineers recognised in the Queen's Birthday Honours list. Professor Bill Wakeham, vice-chancellor

of Southampton University received a knighthood for services to chemical engineering and higher education. Professor Lynn Gladden, head of chemical engineering and biotechnology at Cambridge University, was appointed a CBE for services to chemical engineering. Professor Robert Burch, former head of chemistry and chemical engineering at Queens College, Belfast, was awarded an OBE (Order of the British Empire) for services to chemistry.

Shott said he was delighted by the award: "While I am personally honoured by the

recognition, it's also good news for the wider profession and I extend my congratulations to the other chemical engineers who have been recognised.

"I think this is evidence of a pendulum swing towards a greater recognition of the success and importance of the science, engineering and manufacturing industries and their importance to the UK economy," he added.

IChemE chief executive David Brown congratulated the recipients on their achievements: "It's encouraging to see chemical engineering recognised in this way."



Ian Shott ... The recognition is good news for the wider profession.

Visit to Australia

IChemE president Ian Shott will meet IChemE members and lead business seminars throughout Australia during September and October.

Shott, who is also chairman of pharmaceutical services company Excelsyn, is a plenary speaker at Chemeca 2009, taking place in Perth on 27-30 September.

Shott then travels to Melbourne where he will address IChemE members at a Member Dinner on 1 October at the Melbourne Cricket Ground. He will be delivering his presidential address "Accelerated evolution – capitalising on the bioscience revolution".

He will close his visit with two "Building the bio-business" seminars in Sydney on 2 October and Brisbane on 5 October.

The seminars will present some of the latest thinking on process efficiencies, with particular reference to biological materials and bioprocesses. Other IChemE seminars taking place in September and October include "Safety by design", "Protecting the reputation of the process industries" and a "Successful partnerships" masterclass.

For more information about any of these events, contact IChemE in Australia on +61 (0)3 9642 4494 or via email aust-courses@icheme.org.



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College contact

Bill Chaffey

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phone 02 6270 6558 email bchaffey@engineersaustralia.org.au

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NEWS

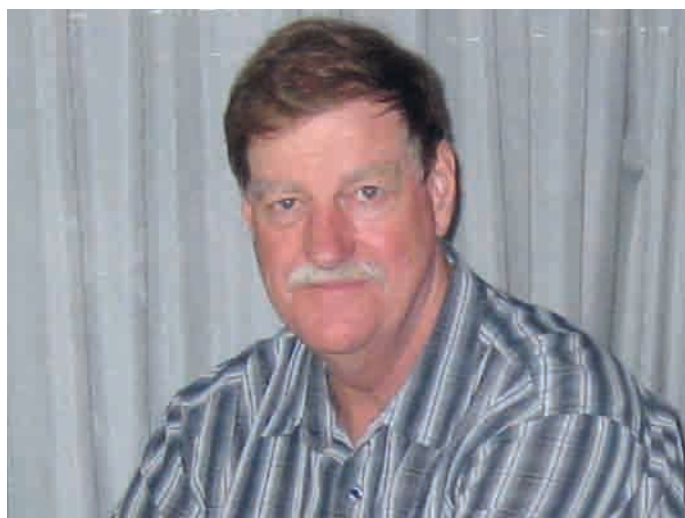
3

Lone exhibitor from Australia at world's largest chemical engineering expo


Only one Australian company exhibited at this year's Achema exhibition and congress in Frankfurt, Germany. Held every three years in May, the expo is the world's largest chemical engineering, environmental protection and biotechnology exhibition.

After 2003 and 2006 it was the third time for FT Technologies to use the exhibition to show its products to an international audience. Located in Griffith, NSW, the company specialises in evaporation, steam stripping and short path distillation equipment based on its own spinning cone column technology.

"It is a specialised area and we rely on export sales for survival," said managing director Trevor Harders, a chemical engineer from Monash University. "The Frankfurt expo has been an important part of getting our message out and really the only one that has brought us consistent success in the way of resultant business."



Trevor Harders ... "We rely on export sales for survival. The Achema expo has been an important part of getting our message out."

NEW Course Coal Seam Methane - A Technical Overview 11th - 12th November in Perth 1st - 2nd December in Brisbane		NEW Course Coal Seam Methane - A Non Technical Overview 13th November in Perth 3rd December in Brisbane
ESD Simulation Training <i>Dynamic Simulation Training Specialists</i>		
TRAINING COURSES		
Practical Aspects of Compressor Control using the CCC System 6th – 7th October in Perth		
Mechanical Aspects of Centrifugal Gas Compressors 8th – 9th October in Perth		
Control Operation & Design of Reciprocating Gas Compressors 12th – 13th October in Perth 16th – 17th November in Melbourne		
Control & Operation of Centrifugal Gas Compressors 14th – 16th October in Perth 18th – 20th November in Melbourne		
Floating LNG – Production Storage Offloading and Re-gasification 19th – 20th October in Perth		
Subsea Systems – A Non Technical Overview 21st October in Perth		
Production Process & Emergency Systems on Oil and Gas Installations 9th – 11th November in Perth		
Subsea Systems – Technical Overview 12th – 13th November in Perth		
Design of FPSO's 16th – 18th November in Perth		
For more information contact: Daren Reid, ESD Simulation Training Pty Ltd Tel: (08) 9355 5599 Email: daren.reid@esd-simulation.com		



"We were particularly pleased this year that our attendance numbers matched those achieved in 2006 despite the financial crisis and the swine flu epidemic which could have reduced attendance numbers considerably.

"We had more than 150 worthwhile contacts and are currently in serious discussions with around 10 of those regarding the purchase of equipment," he said.

FT Technologies consists of three companies:

- Flavourtech is the owner and developer of the spinning cone column technology, which is used in aroma recovery, alcohol removal, deodorisation as well as flavour and soluble solids extraction, for instance in the production of beverages such as tea and coffee
- FT Industrial purchased the Centritherm evaporator technology from Tetra Pak AB in Sweden in 2001. It markets both new and factory rebuilt Centritherms and provides technical support for existing installations. The company exhibited a high-vacuum short-path version of the Centritherm evaporator, which it had developed during the past three years, at this year's Achema "generating a great deal of interest", Harders said.
- Flavourtech Research manages the intellectual property of the group and undertakes research.

This year Achema had almost 3800 exhibitors and 173,000 visitors over five days, with nearly half of the exhibitors and a quarter of the visitors coming from abroad. The next Achema will be held in 2012.

An offshoot of the expo, AchemAsia, is being held in Beijing in alternate years, with the next one organised for June next year.



**CHEMECA
2009**

Celebrating 40 Years

Engineering our Future: Are We Up to the Challenge?

27 - 30 September 2009
Perth, Western Australia
Burswood Entertainment Complex
www.chemeca2009.com

A fantastic event

Chemeca 2009 at the Burswood Entertainment Centre, Perth is shaping up to be a fantastic event with more than 350 papers from 20 countries being presented over 3 days.

Chemeca 2009 "Engineering our Future: Are We Up to the Challenge?" will not only be a showcase for new knowledge but also a forum to discuss current issues. The industry and academia leaders will present their visions for the future, especially in the Australasian context. The diverse range of delegates, papers and presentations will promote synergies and collaborations between academia and industry and inspire all participants to contribute to the future.

Plenary Speakers

Professor Ian Cameron
The University of Queensland
Engineering the Education Journey:
What could the future hold?

Mr Ian Shott
IChemE
Presidential Speech

Mr Laurence Stonehouse
Alcoa
Building on a Solid Base - The Requirements for
a Successful Best Practice Transfer
Programme

Keynote Speakers

Professor Ravindra Datta
Worcester Polytechnic Institute
Learning to Deal with Complexity in
Reaction Mechanisms

Professor Duong Do
The University of Queensland
The Role of Monte Carlo Molecular Simulation
and Monte Carlo Integration in Adsorption
Science and Characterization of Porous Media

Professor Keisuke Fukui
University of Hyogo
Impurity inclusion in crystal during
crystallization

Mr Wei Ge
Chinese Academy of Sciences
Meso-scale structure - the common challenge
for process engineers

Mr Des King
Chevron
Fuels and Energy

Professor Richard Pashley
Murdoch University
Applications of the Unusual Properties of
Water

Ms Jenny Purdie
Rio Tinto
Driving Sustainable Business Performance
through Business Improvement

Mr Russell Scott
Uhde Shedden
Delivering Energy for the Future

Dr Andrew Shook
BHP Billiton
Embracing Reality: Dynamic Simulation of
Metallurgical Processes

Dr Philippe Tanguy
TOTAL S.A.
Environmental Challenges in the Energy
(and Mining) Sector

Dr Yi-Yan Yang
*Institute of Bioengineering and
Nanotechnology*
Self-Assembled Polymer Nanostructures
for Delivery of Therapeutics

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Chem-E-Car Competition

Date: Tuesday, 29 September 2009
Time: 12:00
Venue: Pool Side Lawn,
Burswood Entertainment Complex
Cost: No Charge

At the 6th World Conference of Chemical Engineering in Melbourne in September 2001 we held the final of the first Australasian Chem-E-Car Competition. This tradition has continued for every Chemeca and 2009 in Perth is no exception! The competition is for undergraduate students. The objective is to design and construct a car that uses a chemical reaction to power it and to control the distance it travels carrying a specified load. The competition is about demonstrating ability to control a chemical reaction.

Half Day Site Tours

Join us for a programme of exciting half day bus tours and let Chemeca 2009 be the catalyst that inspires us all to accept the challenge of "Engineering our Future".

visit www.chemeca2009.com for more information



CHEMICAL ENGINEERING AUGUST 2009 IN AUSTRALIA

NEWS

5

Construction starts on small LNG plant

Construction of a small LNG plant in Tasmania officially started this month at a ground-breaking ceremony on site attended by Tasmanian premier David Bartlett. Located in Westbury, the plant will be operated by BOC.

The company is investing \$150 million in the construction and operation of the plant and in supplying six refuelling stations to LNG Refuellers, which will distribute the fuel, according to BOC South Pacific managing director Colin Isaac, a chemical engineer.

“The Westbury plant is being built with the specific purpose of supplying LNG to the heavy transport sector. It will have the capacity to produce 50t a day of



Tasmanian premier David Bartlett turned the first soil at the ground-breaking ceremony of BOC's LNG plant in Westbury, Tasmania. With him are the chairman of LNG Refuellers Ken Padgett (left) and BOC South Pacific managing director Colin Isaac.

LNG which is the equivalent of 70,000L of conventional diesel,” he said.

LNG is an environmentally friendlier

alternative to diesel as it releases up to 20% less greenhouse gases compared to diesel.

Bartlett stated the plant is an “important investment in new generation jobs.

“LNG also fits in perfectly with the government's agenda for low emission transport solutions,” he said.

The plant is expected to be fully operational by next July.

BOC is a member of the Linde Group which supplies compressed and bulk gases, chemicals and equipment

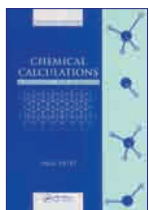
around the world.

Linde has almost 52,000 employees working in about 100 countries worldwide.

EA BOOKS



ENGINEERS
AUSTRALIA



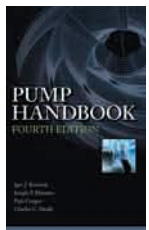
Chemical Calculations: Mathematics for Chemistry, 2e

Paul Yates

\$76.36 + GST = \$84

2007 9780849391644 366pp

Organised by chemical topics rather than by mathematical topics, this book relates each mathematical technique to the chemical concepts where it applies. This 2nd edition highlights the relevant mathematics in the context of topics covered in various branches of chemistry and emphasises a practical, easy-to-use formula. Features include improved cross-referencing and separate indexes for chemical and mathematical topics, with numerous worked examples and problems in each chapter.



Pump Handbook, 4e

Igor S Karrasik et al

\$180.91 + GST = \$199

2008 9780071460446 1632pp

Select, purchase, install, operate, maintain and troubleshoot pumps with this fully revised and updated handbook. Long-established as a leading reference in the field the fourth edition features # State-of-the-art guidance on every aspect of pump theory, design and technology # 1150 detailed illustrations # SI Units used throughout. Includes new sections on: centrifugal pump mechanical performance # adjustable speed-drives # waterhammer, and application to water supply # pumped storage # Cryogenic LNG services, and much more.

Engineers Australia Salary & Benefit Survey, 2008

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6

US government funds the development of Australian battery technology

The CSIRO-invented UltraBattery is set for accelerated development, with the US government awarding US \$32.5 million to US manufacturer East Penn to produce the battery.

The grant is part of US\$2.4 billion in funding for 48 advanced battery and electric-drive projects announced by president Barack Obama under the American Recovery and Reinvestment Act (ARRA).

The funding aims to accelerate the manufacturing and deployment of batteries and electric vehicles in the US.

The UltraBattery combines a supercapacitor and a lead acid battery in a single unit, creating a hybrid car battery that provides comparable performance but costs considerably less than current technologies used in hybrid electric vehicles.

CSIRO licensed the technology to Furukawa Battery Company to commercialise it in Japan

and Thailand, and further granted permission for Furukawa to sublicense it to East Penn for commercialisation and distribution to the automotive and motive power sector throughout North America, Mexico and Canada.

CSIRO Energy Transformed Flagship director Dr Alex Wonhas said: "The grant marks a significant endorsement of UltraBattery by the US government."

The technology is not yet licensed in

Australia for automotive applications and CSIRO is accepting expressions of interest for manufacture and distribution of the technology in this region.

UltraBattery technology also has applications for renewable energy storage from wind and solar. CSIRO is part of a technology start-up that will develop and commercialise battery-based storage solutions for these energy sources.

Talk on the "missing science" of global warming

The South Australian Joint Chemical Engineering Committee, which combines members of Engineers Australia's Chemical College, the IChemE in Australia and the

Royal Australian Chemical Institute, has invited Professor Ian Plimer, professor of mining geology in the School of Earth and Environmental Sciences at the University

of Adelaide, to talk about global warming and the role of human activity in it.

In his book titled *Heaven and Earth. Global warming: the missing science*, published earlier this year, he argues that human activity is likely to have little impact on the global climate.

His talk will be held on Wednesday 9 September at the Chapman Hall, Engineers House, Bagot Street, North Adelaide. The function will start at 5:15pm for 5:45pm. For registration contact Mary Barrow at mhbarrow@chemeng.adelaide.edu.au or 08 8303 5446 by 4 September.



IChemE in Australia Salary survey 2008

A\$100.00 (incl. 10% GST)

ISBN 978-0-85295-527-7

Benchmark pay scales using accurate salary and benefits data from over 550 chemical, process and biochemical engineers employed in Australia.

The survey compares earnings by age, professional qualifications, location, sector and level of responsibility. This is the must-have resource for HR departments in the process industries.

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www.icheme.org/salariesurvey08



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NEWS

7

Forum on industry/university cooperation to be held in Perth preceding Chemeca

IChemE and the Business Higher Education Round Table (B-HERT) are collaborating on the joint objectives of maximising industry/university cooperation, by conducting a forum on Sunday 27 September in Perth preceding the Chemeca conference. The forum is titled *Exploiting academic – industry expertise: addressing workforce issues. How talented is the pipeline?*

Guest speakers will be Emeritus Professor Robin King, project manager and report author of Engineers for the Future; Russell Scott, managing director and CEO of Uhde Shedden Group; Professor Max Lu, chair of the IChemE in Australia Board; and a senior representative from the federal

Department of Innovation Industry Science and Research.

The forum, which will also showcase case studies of current practice, is designed to explore issues such as:

- Is the industry/university interface working, eg is there enough industry involvement in the teaching of design?
- What are some of the options to accelerate the university interface, eg in teaching and research?
- What are some examples of programs that work well for industry and academia?
- How are companies involved in ensuring the talent pipeline?

- Are they involved enough?
- Are there enough graduates for industry needs, now and in the future?

Apart from IChemE members, also welcome are chemical engineering industry representatives, industry HR managers, members of chemical engineering departments' industry advisory committees, deans of engineering and chemical engineering faculty/postgraduate students.

The forum will be held at 2pm, before the official Welcome Function for Chemeca 2009.

Email austmembers@icheme.org to register your interest to attend.



A biofuels compendium

Making sense of the biofuels debate

£20.00

ISBN: 9780852955338

This new IChemE guide brings together reliable policy and scientific information about biofuels, helping readers to navigate around this most complex of subjects and providing a concise, accessible biofuels reference.

www.icheme.org/biofuelscompendium

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Perth 16-17 July and Sydney 23-24 July

For those involved with the purchase, design, fabrication or inspection of pressure vessels.

EEA and AMOG Consulting present:

System Safety Engineering Master Class

Melbourne 17-21 August and Perth 19-23 October

For those involved in the design, maintenance, operation and/or management of systems or equipment with potential safety implications.

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Engineering Education Australia



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8

EVENTS

AUSTRALIA

Presentation: Global warming – the reality (1 day) Adelaide 9 Sep. *Inquiries:* Mary Barrow 08 8303 5446, email mhbarrow@chemeng.adelaide.edu.au

Conference: Chemeca 2009 (4 days) Perth 27 Sep. *Inquiries:* web www.chemeca2009.com

Seminars: Mechanical aspects of centrifugal gas compressors (2 days) Perth 8 Oct; **Floating LNG – production storage offloading and regasification** (2 days) Perth 19 Oct; **Production process and emergency systems on oil and gas installations** (3 days) Perth 9 Nov; **Design & Operation of FPSAs** (3 days) Perth 16 Nov. *Inquiries:* Darren Reid 08 9355 5599, email darren.reid@est-simulation.com

Conference: 11th pacific polymer conference / 31st Australasian polymer symposium (5 days) Cairns 6 Dec. *Inquiries:* Andrea Goodwin 0416 626 500, web www.raci.org.au

Conference: 2009 Multilingual Interdisciplinary Conferences on Chemical, Mechanical and Materials Engineering with Virtual Participation (6 days) 7 Dec. *Inquiries:* web www.ausihem.org

Conference: Seventh international conference on computational fluid dynamics in the minerals and process industries (3 days) Melbourne 9 Dec. *Inquiries:* web www.cfd.com.au/cfdconf

OVERSEAS

Conference: High temperature materials chemistry conference (5 days) Davis, USA 14 Sep. *Inquiries:* web neat.ucdavis.edu/HTMC-13

Conference: International conference on chemical engineering (3 days) Amsterdam, The Netherlands 23 Sep. *Inquiries:* web www.waset.org/conferences

Conference: 10th International conference on frontiers of polymers and advanced materials (4 days) Santiago, Chile 29 Sep. *Inquiries:* web http://200.89.74.77

Conference: 2009 International conference on chemical, biological & environmental engineering (3 days) Singapore 9 Oct. *Inquiries:* www.iacsit.org/cbee.index.htm

Conference: International conference on chemical engineering (3 days) San Francisco, USA 20 Oct. *Inquiries:* web www.iaeng.org/WCECS2009/ICCE2009.html

Course: A chemist's guide to chemical engineering (3 days) Nice, France 10 Nov. *Inquiries:* Karen Thurley +44 (0)1435 873062, email sciup@scientificupdate.co.uk, web www.scientificupdate.co.uk

CALL FOR PAPERS

Conference: International conference on chemistry and chemical engineering (3 days) Cape Town, South Africa 27 Jan 2010. *Inquiries:* web www.waset.org/events.php

Papers due: 31 Oct 2009

Conference: 2010 International conference on chemical engineering and applications (3 days) Singapore 26 Feb 2010. *Inquiries:* web www.iacsit.org/ccea/index.htm

Full papers due: 30 Oct 2009



Training courses in Australia

HAZOP study for team leaders and team members

Adelaide, SA 13–15 October 2009

Fundamentals of process safety

Perth, WA 19–23 October 2009

IChemE forms of contract

Brisbane, QLD 12–13 November 2009

Melbourne, VIC 16–17 November 2009

Project engineering – fundamentals of a project lifecycle

TBC 30 November–2 December 2009

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Seminars in Australia

Safety in design

Melbourne, VIC 1 September 2009

Sydney, NSW 14 September 2009

Protecting the reputation of the process industries

Perth, WA 30 September 2009

Building the bio business

Sydney, NSW 2 October 2009

Brisbane, QLD 5 October 2009

Successful partnerships masterclass

Melbourne, VIC 5 October 2009

Contact: Victoria Reznikov

Email: austcourses@icheme.org

Tel: +61 (0)3 9642 4494

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NEW PRODUCTS

Measuring bulk solids

Endress+Hauser has launched Solicap S, a new range of capacitive switches for point level measurement of bulk solids. The instruments have been designed for the detection of fine grained and coarse materials.

The robust design of the Solicap S range minimises downtime due to probe damage. Probes are available in both sword and rope versions with a maximum measuring range of 20 metres. Their rugged construction can withstand lateral loading of up to 800Nm and a high degree of abrasion at operating temperatures as high as 400°C. The probe's electronics are protected against electrostatic discharges by integrated two-stage overvoltage protection.

After on-site calibration, the parameters are stored in the device's on-board memory and can be transferred to another device if required.

Solicap S also has a gastight probe seal to prevent the exposure of maintenance staff to aggressive or toxic media.

The range includes versions suitable for functional safety applications with hardware certified to SIL2 and software to SIL3 of AS IEC 61511.3-2004.

www.endress.com.au

Mass spectrometer

Agilent Technologies has introduced the 7700 series inductively coupled plasma mass spectrometer trace element analyser.

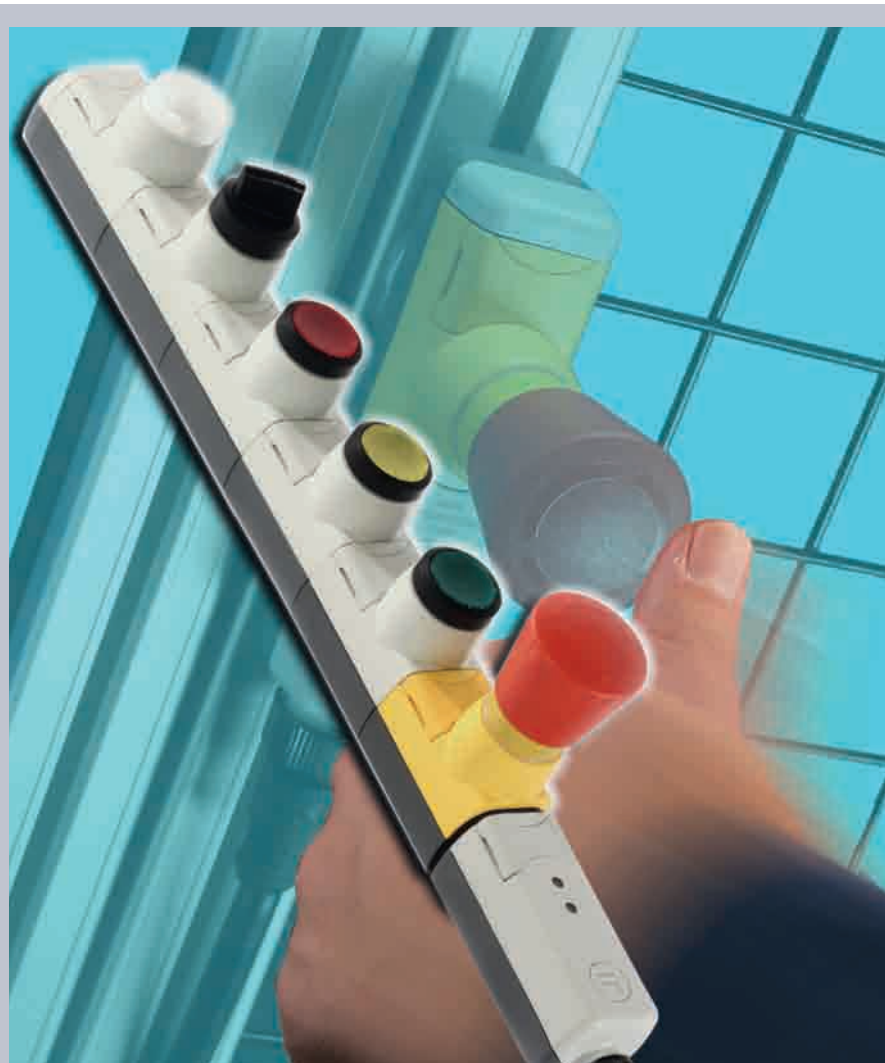
The unit's octopole reaction system 3 collision/reaction cell reduces interference, making the system suitable for complex sample types such as food, wastewater and soil digests.

A redesigned ion lens improves sensitivity and reduces background noise across the mass range.

The device comes with MassHunter software used by all of Agilent's mass spectrometry systems.

The 7700 series easily connects to Agilent's 1200 series liquid chromatography or 7890 series gas chromatography systems.

www.agilent.com/chem



Fortress Interlocks has introduced a modular emergency stop unit into its eGard control system.

Modular unit stops equipment in emergencies

Fortress Interlocks has introduced a modular emergency stop unit into its eGard range of access and control products. The module can be combined with controls, switches and/or interlocks of the eGard range such as single LEDs, pushbuttons and key switches.

The device can also be used with AS-i systems. Connection to an AS-i monitor means that programming complex functions can be completed through a single monitor and the system cannot be modified without security passwords.

eGard is a modular system that clips

together and provides a number of options, including the addition of stop and start switches, indicator lights or gate switch modules. It is designed to fit onto a standard extruded aluminium machine guarding without the need for additional brackets.

All eGard configurations can be connected to programmable logical controller and mimic panels.

eGard is suitable for use in high risk applications up to SIL3 (EN/IEC 62061), Category 4 and PLe (EN/ISO 13849-1).

www.fortressinterlocks.com

NEW PRODUCTS

Sensor for temperature monitoring

NOSHOK's 850 series electronic indicating temperature switch/transmitter uses PT100 technology for temperature monitoring, electronic temperature switching.

The device transmits analogue output of 4mA-20mA to a monitoring and control system.

Two buttons on top of the unit adjust temperature set points, reset points, switching functions and the measuring range of the optional analogue output.

The device's four-digit LED display can rotate for easier reading. This sensor can measure temperatures between -200°C and 600°C.

A variety of stem lengths available with adjustable insertion lengths add to the versatility of the NOSHOK 850 Series. All wetted parts, as well as its housing, are made of stainless steel for corrosion protection and durability.

www.ams-ic.com.au

Rheometer fits custom modules

Thermo Fisher Scientific has launched its Haake Mars III rheometer.

The system has been designed for flexibility with an architecture that permits the integration of custom modules.

Its features include:

- temperature modules with enhanced control accuracy and expanded module range for applications like starch and polymers
- comprehensive accessory range to meet individual needs such as simultaneous measurements of rheology and optical properties, new measuring geometries and sample protection
- improved low-torque performance for sensitive samples
- multi-lingual RheoWin software with automatic measuring and evaluation routines.

The rheometer comes with special accessories for polymers, petrochemicals, paints and inks, pharmaceutical and cosmetics applications.

www.rheologysolutions.com



Unitronics' new Jazz programmable logic controllers are equipped with direct temperature measurement inputs.

Programmable logic controllers

Micromax Sensors & Automation is offering Unitronics' new Jazz programmable logic controllers with direct temperature measurement inputs.

The two models can replace the proportional-integral-derivative controller.

The JZ10-11-UA24 offers two thermocouple/PT100 inputs, two analogue inputs and outputs. The JZ-11-UN20 offers a single thermocouple/PT100 input and one analogue input. Both models include additional digital inputs and outputs.

All Jazz models include four auto-tune PID loops, which can be set using the onboard temperature/analogue inputs

and analogue/PWM outputs.

Jazz's interface consists of a two-line LCD text display that shows up to 60 user-designed screens and a 16-key keypad.

The multilingual display supports over 15 languages and 20 graphic symbols, including the degree sign.

Software functions include interrupt, loops, math, store & compare. Communication options include SMS messaging, MODBUS networking or OPC.

The system is suitable for ovens, autoclaves, rotating tables and home automation.

www.micromax.com.au



The Haake Mars III rheometer's improved low-torque performance is suitable for sensitive samples.