

# MECHANICAL

T E C H N O L O G Y

## Editorial Policy

*Mechanical Technology* sets out to support South African industry in all issues that may be informative and interesting to professionals across the full spectrum of engineering and the mechanical trades. It sets out to promote responsible engineering and business practices and to highlight opportunities for South African companies to become more internationally competitive.

We believe that efficiency, in terms of energy, resource use and productivity are key features of responsible engineering. We promote good design, decision making and procurement practices, based on neither best possible performance nor lowest capital cost, but rather on appropriate solutions for technical tasks at lowest lifecycle costs, ie, costs of procurement, maintenance and on-going energy and other running costs.

*Mechanical Technology* believes that environmental issues are, and will remain, of increasing importance going into the future and that sustainable development is essential if we are to secure our planet and the quality of life for future generations.

## Regulars:

**Special report:** Breaking technology news or special event reports in support of mechanical and technology in South Africa and industry in general.

**On the cover:** A front cover and a two-page sponsored article about a company or a company's products.

**Innovative engineering:** Articles and comment about current and future technology development – research, new inventions and future trends.

**Industry forum:** A summary of the months industry news.

**Products and services roundup:** Product news related to the features of the month.

**Nota bene:** The back page of the magazine which diarises future events and lists new appointments in featured industries.

## Features

### January/April/July/October

#### Power transmission, bearings and bushes

*Mechanical and electro-mechanical power transmission*

**Speed reducers and couplings:** gearboxes, belt drives, shaft drives, chain drives, winding systems, winches, fluid-couplings, air clutches and brakes, servo systems.

**Drive and shaft components:** bearings, hubs, bushes, drive shafts, flexible couplings, universal joints, taper locks.

**Electro-mechanical power transmission:** electric motors and variable speed drives, linear variable differential transformers (LVDTs), geared motors, electric drives, speed control, torque control, flameproof electric motors, high torque motors.

#### Computer-aided engineering

*IT tools for today's engineer*

Computer-aided design (CAD), solid and 3D modelling, digital or virtual prototyping, engineering analysis and digital simulation. Computer-aided manufacturing (CAM), injection mould design, rapid prototyping, numerical control (NC) simulation and verification, failure analysis. Case studies in engineering, design for manufacturing. EPC-tools, plant and product lifecycle management (PLM) and product data management. IT tools for energy efficiency and proactive maintenance.

#### Modern engineering materials & processing technology

*Innovative materials and process technologies*

**Metals:** steels, stainless steels, aluminium, platinum, titanium, tantalum, zirconium, niobium and nickel-based alloys. Metal-related manufacturing processes, applications and future trends. Furnaces, kilns, ovens, foundries and forges: Pyrometallurgy, fire retardant materials, advanced ceramic technologies, blasted furnaces, coal and diesel burning furnaces, cold forging applications, casting design methodology, and machinery.



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**Plastics, rubber and composites:** composites, polymeric materials, coatings, chemicals, nylons, fabrics, printing, purification, separation, fibre reinforcing, fibre glassing, material properties, coatings. Manufacturing and processing techniques and machinery for non-metal materials: vacuum forming, blow moulding, injection moulding, dip coating, recycling technology.

## Hydraulics and pneumatics systems

*Hydraulic and pneumatic drive and control systems.*

**Hydraulics:** hydraulic pumps, motors and actuators, valves and control systems, manifold blocks – design and manufacture; oil cooling and purification systems, ideal applications for hydraulic drives.

**Pneumatics:** oil and oil free compressors, pneumatic motors and actuators, valves and pneumatic control systems, dehumidification and cooling of compressed air, VSDs and improving the efficiency of compressed air systems.

## February/May/August/November Proactive maintenance, lubrication & contamination management

*Developments in maintenance technology, lubrication and industrial filtration systems*

**Maintenance:** Modern maintenance and repair practices: service assessments, refurbishment and machine life extension programmes, corrosion control, maintenance and cleaning equipment, training of maintenance personnel.

**Lubrication:** Tribology, lubricants and oil research and development, synthetic oils, oil change intervals, oil transfer pumps, lubricators, greasers, flow meters, hose reels, air-operated lubricators, heavy-duty engine oils, grease, additives, wear.

**Contamination management:** oil and air filters, compressed air systems, dust control, water treatment, filter performance, fans, particle removal, dust collectors, adsorption dryers, and industrial cleaning systems.

**Quality:** Total quality management and monitoring: in-process quality checks, determination of mechanical properties of materials, NDT, remote diagnostics, condition monitoring, machine condition assessment, environmental management systems, inspection skills training.

## Materials handling and logistics

*Movement of bulk materials, unit handling, storage, monitoring and control of materials handling systems*

Materials handling robots, belt conveyor systems, pneumatic conveying, overhead gantries, earthmoving equipment, automated warehouse management, cranes, hoists, cyclones, fine screeners for sizing granular products, tipping bins, pallets, trolleys, electro-mechanical loadcells, forklift trucks, centrifuges.

## Manufacturing technology and plant automation

*South African manufacturing and plant automation solutions*

**Manufacturing machinery:** NC machines, lathes, milling machines, boring machines, bending, forming, pressing, stamping and cutting processes and machinery, plasma and laser cutting equipment, joining techniques.

**Plant automation:** Process control equipment and monitoring, plant

software and sensors, production management and plant efficiency, energy efficiency management.

## Heating, cooling, ventilation and air conditioning

*New generation HVAC systems, suppliers and products*

**Heating:** Industrial boilers, heat exchangers and recovery systems, pressure vessels, steam-generating units, air coils, inductors, chokes, efficiency and heating in industrial and commercial applications.

**Air conditioning and ventilation:** Industrial and commercial HVAC applications, ice storage, load shifting techniques, efficiency and HVAC, heat recovery and heat pumps, solar and waste heat applications.

## March/June/September/December Pump systems, pipes, valves and seals

**Pumps:** Helical rotor pumps, axial flow pumps, close-coupled pumps, dosing pumps, sludge pumps, slurry pumps, borehole pumps, centrifugal pumps; safety relief valves, change-over valves, pilot-operated valves, actuators, cylinders, regulators, positioners, level transmitters, ball valves, recirculation valves. Gaskets, rings, seals and packings.

**Pumping systems:** Best efficiency options, pumps in parallel, optimising pumps efficiency and reliability.

**Pipes:** piping systems and design for best efficiency; Valves: flow control and monitoring of pumping circuits.

## Robotics, mechatronics and automation

*Flexible manufacturing, robots and factory automation cells and sub-systems.*

**Robotics:** New applications for robots for materials handling, machining, assembly, etc: Flexible manufacturing systems and cells. Search and rescue and other robot applications, lean manufacturing. Programmable logic controllers (PLCs), encoders, transducers, non-contact level measurement, fibre-optic systems, analysers, fibre-optics for industrial control networks, data acquisition systems. Sensors: laser, temperature, pressure, floor, humidity, angle, speed.

## Power, energy and energy management

*Electricity efficiency management, generation, transmission and distribution*

**Demand side management (DSM):** Strategic energy conservation and electrical load management by large industry. Actions that influence the quantity or patterns of use of energy consumed by industry, reducing peak demand, load-shaping and demand side efficiency.

**Power generation:** Coal-fired and nuclear power stations, steam and gas turbines, generator technology, power plant automation systems.

**Renewable power generation:** Concentrated Solar Power, photovoltaic systems, wind turbines, sterling engines, hybrid systems, fuel cell technology, diesel generators.

**Fuel:** Coal, nuclear, oil, biodiesel and ethanol, alternative fuels, etc.

## Modern transport and vehicle solutions

*Coverage of the SA industries in the road, rail, sea and air sectors*

Local automotive research and development, manufacture of vehicles, buses, trucks, electric and hybrid automobiles, Tier II and Tier III component manufacture and supply, product lines, lean manufacturing, shipping and railroad transport.

# MECHANICAL

PUBLISHER: Jenny Warwick EDITOR: Peter Middleton CONTRIBUTING EDITOR: Dale Kelly ADVERTISING: Lyn Sara

## ADVERTISEMENT RATES 2012

**Mechanical Technology** is a monthly magazine aimed at people involved in engineering. The magazine covers all aspects of mechanical technology including design, manufacturing, management and innovation. Our editorial policy is to keep readers abreast of technological developments in their industries, by informed and committed journalism. Deadline for editorial and advertising is one month prior to month of publication.

**Mechanical Technology** is a member of the MPA and ABC. The magazine's circulation database is updated on a regular basis to ensure that its readership is accurate. Our ABC figures from January to June 2011 are 3 707

## READERSHIP PROFILE

Mechanical industry .....	1813	Foreign .....	46	Subscribers .....	75
Special complementary.....	74	Academics .....	52	Mines & metallurgists .....	383
Consultants .....	238	Media.....	163	Promotional.....	60
Local Government .....	355	Welding .....	691	TOTAL .....	3950

## FULL COLOUR ADVERTISING RATES PER INSERTION (EXCLUDING VAT)

	Casual	3 Insertions	6 Insertions	12 Insertions
A4	R16 200	R15 200	R14 300	R13 300
A5/half A4 (V or H)	R12 000	R11 300	R10 600	R10 100
Third A4 (V or H)	R9 600	R9 200	R8 700	R8 300
Quarter page A4	R8 100	R8 000	R7 500	R7 200

**B&W** = 80% of full colour rates **Cover positions:** Rates on request

**SUBSCRIPTIONS:** R360 per annum (including VAT @ 14% and postage within the RSA)

## MATERIAL REQUIREMENTS:

Press optimised PDF files, minimum 300 dpi, centered, with bleed, and saved as CMYK, is required. Colour proof to be provided

### Advertisement sizes:

A4:	Type area:	260 mm deep	x	180 mm wide
	Trimmed size:	297 mm deep	x	210 mm wide
	Bleed:	303 mm deep	x	216 mm wide
1/2 A4:	Vertical:	260 mm deep	x	90 mm wide
	Horizontal:	130 mm deep	x	180 mm wide
A5:		180 mm deep	x	120 mm wide
1/3 A4:	Vertical:	260 mm deep	x	55 mm wide
	Horizontal:	85 mm deep	x	180 mm wide
1/4 A4:	Vertical:	130 mm deep	x	100 mm wide
	Horizontal:	65 mm deep	x	180 mm wide

### Terms of acceptance:

- 1) No cancellation of space booking will be accepted after each copy deadline.
- 2) All copy for advertisements is subject to approval by the publisher, who reserves the right to decline or cancel any advertisement or series of advertisements.
- 3) The proprietor and publisher shall not be liable for any loss incurred by the failure of an advertisement to appear on any special date, or at all, for any cause whatsoever.
- 4) No responsibility will be accepted by the publishers for loss arising from typographical errors.
- 5) It is the client's responsibility to supply material suitable for space bookings by copy deadlines. If copy is not forthcoming, the publishers have the right to make up copy for space booked. Furthermore, the cost of making up the material will be debited to the client.
- 6) Payment is due on publication.
- 7) **Please note, all advertising and production charges are subject to VAT. Reproduction costs are additional and subject to VAT.**
- 8) Advertising bookings and material deadline: one month prior to publication cover date.



Tel: +27 11 622-4770/11/2/3 Fax: +27 11 615-6108  
 PO Box 140, Bedfordview, 2008  
 e-mail: [mechanical@crowns.co.za](mailto:mechanical@crowns.co.za)  
 web: [www.crown.co.za](http://www.crown.co.za)

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## FEATURES 2012

### JANUARY

- Power transmissions, bearings and bushes
- Computer-aided engineering
- Modern engineering materials and processing
- Hydraulic and pneumatic systems
- Innovative engineering

### FEBRUARY

- Proactive maintenance, lubrication and contamination management
- Materials handling and logistics
- Manufacturing technology and plant automation
- Heating, cooling, ventilation and air conditioning
- Innovative engineering

### MARCH

- Pump systems, pipes, valves and seals
- Robotics, mechatronics and automation
- Power, energy and energy management
- Modern transport and vehicle solutions
- Innovative engineering

### APRIL

- Power transmissions, bearings and bushes
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### MAY

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### JUNE

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### JULY

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### AUGUST

- Proactive maintenance, lubrication and contamination management
- Materials handling and logistics
- Manufacturing technology and plant automation
- Heating, cooling, ventilation and air conditioning
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### SEPTEMBER

- Pump systems, pipes, valves and seals
- Robotics, mechatronics and automation
- Power, energy and energy management
- Modern transport and vehicle solutions
- Innovative engineering

### OCTOBER

- Power transmissions, bearings and bushes
- Computer-aided engineering
- Modern engineering materials and processing
- Hydraulic and pneumatic systems
- Innovative engineering

### NOVEMBER

- Proactive maintenance, lubrication and contamination management
- Materials handling and logistics
- Manufacturing technology and plant automation
- Heating, cooling, ventilation and air conditioning
- Innovative engineering

### DECEMBER

- Pump systems, pipes, valves and seals
- Robotics, mechatronics and automation
- Power, energy and energy management
- Modern transport and vehicle solutions
- Innovative engineering

Special feature articles by arrangement with the editor