Integrated drive technology reduces machine footprint

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Association Objectives

- Raise the professional standards of the pneumatics and hydraulic industries
- Stimulate and promote education and training in the fluid power industry
- Build synergistic rapport between companies within the industry
- To promote, collect, collate, distribute data, ideas and knowledge
- To encourage the growth of the membership base

For more information visit our website www.safpa.org.za or call +27 (0)11 888 7163

SAFPA membership certificate may be used to support tender applications, members are also welcome to use the SAFPA logo on all their advertising.
Beckhoff’s AMP8000 distributed Servo Drive system provides ideal support for the implementation of modular machine designs. A servo drive is directly integrated into a servomotor, all in a highly compact design. In this way, the power electronics are relocated to the machine, reducing space requirements in control cabinets to just a single coupling module. Read our cover story on page 7 to find out how decentralised distribution modules and the universal EtherCAT P solution further optimises Beckhoff’s modular machine design approach.
Moving on after loss

It is with a heavy heart that I announce the passing of our CEO, Vivienne Dorrington, after a long and brave battle with cancer. It was a privilege to have worked with her, and everyone at Technews will miss her terribly.

On a more positive note, we are very excited to announce a brand new format for Motion Control. As technical business-to-business publishers, we continually analyse the market and what our vendors and readers want, and we are making some changes to our Motion Control Buyers’ Guide (MCBG). The previous format included a broad range of information in the form of tables and directories in one annual publication. We believe this will be more accessible and useful if it is split up and included in the quarterly issues of Motion Control, where it will be aligned to specific features alongside relevant product editorial, application notes and white papers. This will allow readers to see who is relevant in a particular area of technology, as well as the latest trends. The first 2020 edition of MCBG is published in this issue and features hydraulics.

We are all trying to deal with the loss of our old way of life, make sense of what has happened to us, and cope with a new world. The Economist talks about the Theory of Punctuated Equilibrium, which says that social systems stay the same for long periods, punctuated by sudden shifts leading to radical change in short, stressful bursts of time. Evolution is not a constant, gradual process, it occurs when species are in an environment of high tension. This kind of makes sense to me. Six months ago when we talked about disruptive technologies in IIoT, little did we realise what disruption really meant. In a previous editorial we said that 4IR was blurring the boundaries between the physical, digital and biological worlds. It looks to me like it’s now at a tipping point that is hurtling us into the future.

The pandemic is making us realise how much we need 21st century technologies to keep going. Humans have come up with the brightest and most innovative ideas when they are looking into the abyss. Systems that have resisted change for decades have gone virtual. Videoconference meetings and online schooling are now happening in our homes. Companies are building new digital capabilities and adapting their business models at a speed not even imagined a few short months ago.

Innovations in motion control technology have increased manufacturing production, speed and efficiency. We have technologies now that we did not have twenty years ago to share information, designs and manufacturing technology to make things quickly and simply. Advanced digital design and 3D printing technology have made rapid product switching possible. Engineers are rethinking their assumptions and applying their expertise in new ways. Here are some examples:

Lego’s engineering team worked around the clock to create designs and repurpose moulding machines that can produce 13 000 visors a day for frontline health workers. Vacuum-maker, Dyson, produced 10 000 ventilators, swapping from making machines that suck to ones that blow. Electronics giant, Sharp, adapted its cleanroom production facilities for LCD display panels to make 150 000 surgical masks a day. General Motors produced medical grade face masks using interior textiles for cars.

Engineers at the Royal Mint tapped into their problem solving abilities, shifted gear and took just 48 hours to design a plastic visor. A week previously they knew nothing about visors, now they are making one every 10 seconds. Tesla engineers built ventilators using car parts typically found in the suspension system of a Tesla Model S, including the air tank and air pressure regulator to build the oxygen mixing chamber. They are also using the infotainment computer and touchscreen from a Model 3 to monitor and control the air flow. At home, Distell has repurposed its Monis production plant to produce alcohol-based sanitiser, while SAB donated 100 000 face shields made from recycled beer crates.

The Economist adds that the pandemic’s silver lining is the chance to experiment with technologies and cooperative global approaches that could lead to a safer, more sustainable future. Those who successfully adapt won’t just thrive in the accelerated 4IR, they will shape it.

Some of these ideas are quite exciting, but at the end of the day I have to say that I really miss hanging out at the office, or a hello-hug with my buddies. I hope that you and your families and friends stay safe, and that we are all able to emerge from our losses into a new, dynamic, more caring and prosperous world.
From the President’s desk

Good Day,

I trust all our readers are safe and healthy during these troubled times. COVID-19 has thrown the industry and South Africa into turmoil over the past few months. Some companies may not make it through this difficult period and the ones that do will come out looking very different.

Unfortunately many companies may not be in a position to trade or sustain income. Therefore many employees may be directly affected. Details for income relief for businesses, UIF and other government initiatives were circulated by Cost Time Resources. If you did not receive details of these funds and instructions on how to achieve these relief benefits, please contact the SA Fluid Power Association. The email address is ctr@safpa.org.za

Due to restrictions regarding social gatherings, the committee has not been in a position to meet since February and all current projects have been put on hold. With the easing of restrictions from June onwards and the possibility of industry returning to a new normal on a slow recovery, the SAFPA council needs to decide on the way forward, as the scheduled AGM date has passed. Therefore the existing council is continuing to act in the interim until an election and AGM can take place.

The next council meeting may take place via an online platform to confirm the way forward regarding the interim council and a date may be set for the AGM. The review of the ‘Guide to pressure equipment in the fluid power industry’ can be discussed and formalised for print media and then distributed once the backlog of print has been completed. This will then be distributed at the AGM.

In order to assist companies during these difficult times, the council has requested that half of the subsidies will either be refunded or credited to the various members. The logistics and financial mechanism must still be discussed at a council meeting, but the members will be informed in due course.

Stay safe and healthy,
Kind Regards,
Dustin Pereira

Back down memory lane

The Fluid Power Institute of South Africa was officially established at the University of the Witwatersrand on November 17 1982, when the organisation held its first general meeting. At the meeting the first council of the Institute was elected. The members are pictured above from left to right: (back row) G Kuhl of SA Pneumatic; H Heiss of Hytec SA; Dr D Wymer of the Chamber of Mines; D Mullen of Power Systems International; L Sim of Reunert and Lenz; and W Zimmerman of Fluid Power Training Consultants; (front row) M Eva of Compressor Valves; K Auf der Heyde of Festo; R Hancox of Power Systems International; J Bradford of Schrader Bellows; B Roode of Reunert and Lenz; and Prof Roy Marcus, head of the school of mechanical engineering at the University of the Witwatersrand. N Simpson of Axiom Hydraulics was absent when the picture was taken.
Bosch Rexroth appoints distributor in Tanzania

Hytec Services Africa (HSA) has awarded distribution rights in Tanzania to Magare. The company, which supplies services to general industry and the mining sector, will distribute all Bosch Rexroth products throughout Tanzania. Numerous companies were evaluated against a set of pre-determined criteria to establish the best potential business partner. “Magare has a division specialising in mechanical and electrical component sales and services the same customer base as Hytec Services Africa,” says Africa development manager, Louis Potter. “These factors, among others, perfectly position the company to be a distributor for the full product range from Bosch Rexroth.”

Tanzania has a large mining industry with a broad array of needs and HSA’s goal is to provide specialist solutions to address these specific customer requirements. Potter says: “We have developed good relationships with the larger mining groups to the point that more attention closer to home became necessary. Magare is the perfect in-country partner for us to ‘Move now, Drive tomorrow, Shape Africa’.”

The company will perform a sales service with specialist support from South Africa. “We intend building on this relationship through knowledge transfer to ultimately include service and repair capabilities in the future. These long-term partnership investments enable Bosch Rexroth to take its products, services and expertise into the broader African market and strengthen its position as a leading international fluid power and automation company,” Potter concludes.

For more information contact Louis Potter, Hytec Services Africa, +27 11 573 5460, louis.potter@boschrexroth.co.za, www.boschrexroth.africa

KSB supports SABI schools training

KSB Pumps and Valves has once again thrown its support behind the initiative by the South African Irrigation Institute (SABI) to present irrigation courses to grade 11 school pupils. The SABI training forms part of the curriculum for Agricultural Technology, Agricultural Science and Agricultural Management Practices for schools and is presented as a two and a half day course in Irrigation to grade 11 learners.

According to SABI’s Riana Lombard, the programme is expanding as interest grows and the word gets around. “We are confident that the SABI training programme for agricultural schools yields positive results on many fronts in the irrigation industry in South Africa and are thankful to KSB for presenting the pump and motor section of the course. We believe that the SABI agricultural schools programme is important for the next generation of young South Africans.

“We provides basic training specific to irrigation and water supply for farming,” says Jason Nel, KSB Durban branch manager, who provided the training. “This year KSB included physical pump components so that the experience was more interactive and learners were able to touch and see the working parts of a pump. We know that the investment will provide these future farmers with a positive sentiment towards KSB and an understanding that KSB is always there to support our farmers.” The group represented people from all areas and all population groups and showed that farming will be in good hands in coming generations.

For more information contact Annett Kriel, KSB Pumps and Valves, +27 11 876 5600, annett.kriel@ksb.com, www.ksb.com/ksb-za

SMC steps up to support essential service customers through lockdown

SMC Corporation South Africa, as a leading supplier of advanced pneumatic and electrical automation technology, has remained open and certified as an essential services supplier throughout lockdown. We are ready to assist all our current and potential customers requiring technical support or supply of essential repair and maintenance products.

As a customer focussed organisation, SMC is committed to ensuring that all its essential service customers are able to operate at maximum capacity through the critical lockdown period and in the economic recovery thereafter. The company is available through all normal communication channels to assist with technical queries and specifications, product lead time queries, and to take new orders. To maintain our own compliance with lockdown regulations, local dispatching will be limited to certified customers operating as per regulation. Any essential service items ordered from local stock, production or assembly can also be provided. Non-stocked items may also be imported for you although lead times may be affected by the current backlogs and delays in international freight services.

SMC Corporation is also taking all recommended precautions to minimise exposure risk to our own employees and yours, as the customer. We perform regular screening of employees, and apply social distancing principles and sanitising activities.

With our extensive warehouse of stocked automation components, our knowledgeable team is ready to advise and support companies around the country and into Africa. For those customers requiring made-to-order supplies, the local manufacturing and assembly facility is operational. Our sales counter is also open for order intake, although we request that all visitors apply precautions as per our guidelines. Same-day dispatch of items in stock is available until 15:00 on weekdays.

We understand that some component suppliers are seeing challenges in their supply chain. SMC can offer you an alternative should you wish to limit the impact by any of these issues.

For more information contact SMC Corporation South Africa, +27 10 900 1233, zasa@smcza.co.za, www.smcza.co.za
Sasol leads gender transformation in mining

Caroline Shirindza is one of the very few female general managers in South Africa’s mining industry. Her journey to the top has been challenging, but can be seen as a beacon of light for younger generations of women who choose to follow in her footsteps.

Shirindza grew up in Phalaborwa, where she was exposed to the realities of mining. She saw the benefits of the industry – job creation, economic development and innovation – but also the many challenges, particularly noting the low level of women participation. For Shirindza, transformation of the industry is more than just about achieving gender parity, but also about ensuring that nobody is left behind as the industry evolves. This entails supporting and upskilling employees as the sector moves toward digitalisation and the adoption of new technologies.

Recalling her early experience in mining, she says women did not even have their own change rooms. Starting as a miner at Anglo American’s Goedhoop coal fields she progressed through the ranks and eventually joined Sasol Mining as business planning manager, then mine manager, then vice president of Sasol Mining. She recently took over the reins at the Bosjesspruit Colliery in Secunda as general manager. She also serves on the Sasol Women in Mining Forum as sponsor, culture ambassador, coach and mentor to young women.

Her advice to women is to believe in their competencies. She also emphasises the importance of professionalism. “We need brilliant young minds to come into the industry to help us develop innovative, efficient processes and technologies;” she concludes.

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SANY helps DarkFEST 2020 achieve new heights

A SANY excavator played a key role in assisting UK MTB star and course builder, Sam Reynolds, design and construct the biggest jumps yet for DarkFEST 2020, recently held in Stellenbosch. Monster Energy marketing manager Ryan Franklin explains that the Goscor Group’s SANY helps DarkFEST 2020 achieve new heights.

Christo Swart approached the event organisers at the end of 2019. “He expressed an interest to come on-board with the 2020 event and obviously we were very excited to partner with him.”

Swart was undaunted by the fact that DarkFEST 2020 aimed to build the best jumps of all time, confident in the capability of the SANY excavator to undertake this project safely, quickly and cost-effectively.

The excavator played a key role in stacking and shaping the large quantities of dirt required to build the jumps comprising the course. It was operated by the expert DarkFEST builders, who “loved the machine,” Franklin comments.

Creating these never before seen jumps, which are believed to have been some of the most gravity-defying in the world, required a high level of creative conceptualisation, which translated into long hours in the excavator.

“We only had three weeks and the excavator was critical for the build. We were very happy with the machine, which operated perfectly, with no breakdowns and amazing fuel efficiency,” Franklin highlights. “Thank you so much to Christo and the team for making the DarkFEST 2020 build a reality;” he concludes.

For more information contact Debby Marx, Goscor, +27 11 230 2600, dmarx@goscor.co.za, www.goscor.co.za

Appointments

Beckhoff has appointed Brendan van der Westhuizen as support technician.

Hytec South Africa has appointed Werner Voigt as projects manager.

Hytec Engineering has appointed Neil Griezel as production manager.

Hytec Engineering has appointed Koos Botha as sales manager.
Each low-cost, three-legged robot moves around with the help of two motors that vibrate at different frequencies, causing it to move across a surface on its rigid legs. It communicates with its neighbours, measuring their proximity through infrared transmitters and receivers. After being programmed to form a set shape such as the letter K or a starfish, each one in turn navigates its way to a final position using primitive behaviours – following the edge of a group, tracking a distance from the origin or maintaining a sense of relative location. If a traffic jam forms, nearby robots sense it and cooperate to fix the problem.

“Each robot is identical and is controlled by exactly the same program,” explains Dr Michael Rubenstein from the Harvard University School of Engineering and Applied Sciences. “The only thing they have to go on to make decisions is what their neighbours are doing.” The robots are much simpler than many conventional robots, for example individuals may have trouble moving in a straight line; but at full scale the smart algorithm controlling them overcomes individual limitations and the robots can complete a human-specified task – like assembling into a particular shape.

Infrared control
Although the Kilobots can communicate with their neighbours, they have no sense of a broader environment. Four robots mark out the origin of a coordinate system while the remaining robots receive a 2D image of the shape. The initial set of instructions is beamed to the robots via infrared, after which they work autonomously, requiring no further human intervention. Starting with a random selection, if they are in a position to move they motor slowly around, flashing their infrared lights to broadcast information to other Kilobots nearby. They then assemble into the specified shape.

Inspiration from nature
The self-organising behaviour was inspired by the cooperative activities of insects like army ants. The Harvard team aims to provide a physical model for advancing the understanding of collective behaviour, creating artificial swarms with the capabilities of natural ones. The Kilobot demonstrates how simple machines performing simple behaviours can create complexity in a group and that robots can be programmed to perform useful functions by coordinating interactions among many individuals. “The beauty of biological systems is that they are elegantly simple yet in large numbers accomplish the seemingly impossible. At some level you no longer even see the individuals, you just see the collective as an entity in itself,” says research leader Radhika Nagpal, professor of computer science at the Harvard School of Engineering and Applied Sciences.

Practical testing of advanced algorithms
Although there is a large amount of research on algorithms and control methods for groups of decentralised, cooperating robots, they are generally validated by simulation only. The Kilobot goes well beyond the state-of-the-art in robotics by allowing the practical testing of advanced algorithms on a large scale through the use of cheap materials and simple programming. “Performing complex behaviours with as little hardware as possible to keep costs down encompasses the spirit of Kilobots,” says Rubenstein.

An important milestone
The technology is being heralded as an important milestone in the development of collective artificial intelligence. “Increasingly we’re going to see large numbers of robots working together to solve problems,” adds Nagpal. The researchers believe that robot swarms might one day tunnel through rubble to find survivors, remove contaminants from the environment, assist dwindling bee populations in pollinating crops and self-assemble to form support structures in collapsed buildings. Success in getting so many robots to self-organise could be a significant milestone in the development of nanotechnology and a collective artificial intelligence, according to the researchers. The next stage is to refine the intelligence and develop smaller robots capable of the same tasks, eventually aiming for the nano scale.

For more information visit http://tinyurl.com/k96uqb4
Beckhoff’s AMP8000 distributed Servo Drive system provides ideal support for the implementation of modular machine designs. A servo drive is directly integrated into a servomotor, all in a highly compact design. In this way, the power electronics are relocated to the machine, reducing space requirements in control cabinets to just a single coupling module. In addition, decentralised distribution modules and the universal EtherCAT P solution further optimise the modular machine design approach.

The AMP8000 system consists of three main components: a single-channel or alternately dual-channel coupling module that forms the starting point, and the only component that still needs to be installed in the control cabinet. The coupling module establishes a connection between the DC link, 24 V DC supply and EtherCAT communication. For use with the high performance AX8000 multi-axis servo system from Beckhoff, the AX883x coupling module is connected to the AX8000 supply module in order to provide a link to the IP 65-rated devices with one or two outputs. In combination with the AX5000 Digital Compact Servo Drive, the AX503x coupling module can also be used in stand-alone mode due to an integrated power supply unit. In this way, 20 A, 600 V DC link voltage, 24 V power supply and EtherCAT networking are available via the EtherCAT P outputs.

This power is initially supplied to an AMP8805 distribution module as a second system component. As an IP 65-rated component integrated into the machine layout, it supplies up to five AMP80xx distributed Servo Drives. It can be mounted either directly (brick style) or using a bracket available as an accessory (book style) and adapted to individual machine designs. The distribution module has an internal capacitance of 1120 µF to support the DC link.

The third system component is the AMP80xx distributed Servo Drive. It is identical to the standard servomotors in the AM8000 series with regard to its mounting dimensions and performance data. Only the overall length has increased in comparison with the standard motors due to the integrated power electronics. Since this added length is not usually critical for the installation, most existing machine designs can be upgraded without the need for modification. The AMP80xx distributed Servo Drives are initially available in the flange sizes F4 and F5. Various versions are available with rated outputs of 0.61 to 1.18 kW and standstill torques of 2.0 to 4.8 Nm (F4) or rated outputs of 1.02 to 1.78 kW and standstill torques of 4.1 to 9.7 Nm (F5). The STO and SS1 safety functions are integrated as standard and a range of extended safe motion functions are currently being prepared.

Universal cabling and cascadable installation
The components in the AMP8000 system are universally connected with the uniform One Cable Automation (OCA) cabling technology, which connects via identical cross-sections and connectors. This is a dynamic, drag-chain compatible EtherCAT P cable with ECP-B23 connectors, which means the one cable solution features a hybrid cable that combines EtherCAT P (communication plus 24 V system and peripheral voltage) with additional power cores. Preassembled cables and connectors facilitate easy installation and minimised errors during cabling.

The AMP8000 system is also cascadable via the distribution module, meaning even highly complex machines and plants can have a simple and clear-cut topology layout. For example, one main distribution module can supply five sub-modules, to which a maximum of 25 distributed servo drives can be connected.

Compact drive integration
With the AMP80xx, the integration of drive technology has been implemented in an exceptionally compact design, made possible through the use of the latest output stage technologies. The power module is attached at the rear end of the servomotor shaft, ensuring that the attachment dimensions are identical to those of the corresponding standard servomotors in the AM8000 series. Only the overall length is about seven centimetres larger. For machine builders, this means only a small amount of additional space is required, making it possible to change their drive concepts without any fundamental design modifications.

Apart from the small overall volume, the elegant and slim design of the AMP8080xx offers further advantages. The two dissipated heat sources – motor and power electronics – are clearly separated from each other and ensure much better heat dissipation, without the need for additional installation space or heat sinks. As a result, the distributed servo drives easily attain the same excellent properties as the corresponding standard AM8000 servomotors from Beckhoff.

For more information contact Dane Potter, Beckhoff Automation, +27 79 493 2288, danep@beckhoff.com, www.beckhoff.co.za
More intelligent drive systems

Siemens has developed a concept study that demonstrates the integration of a Sinamics drive system to the Siemens Industrial Edge platform. In future, it will be possible to perform high frequency data exchange in drive technology using an Edge device. The integration of Sinamics frequency converters with an Edge device enables users of machines and applications to perform complex analyses of data already collected in the drive. Machine learning algorithms identify patterns and detect anomalies, providing early indications of necessary maintenance. For example, in intralogistics applications the belt tension can be monitored for a storage and retrieval machine. The belts, which are driven by a motor and frequency converter, require a specific tension so that the application runs smoothly. If the visualisation of the data analyses shows irregularities in the drive system, then belt maintenance can be triggered promptly.

By connecting Sinamics frequency converters to the Industrial Edge platform, Siemens is making drive technology more intelligent and paving the way for new business models. With intelligent drive technology, machine builders can provide application-specific app solutions and digital services, for example, or contractually guarantee the availability of a machine. With Industrial Edge, Siemens offers a digitalisation solution that expands automation to include data processing at machine level, by safely moving the intelligence of edge computing and advanced analytics into the manufacturing area. This offers users the opportunity to execute a range of descriptive, diagnostic, predictive and prescriptive analytics applications.

For more information contact Jennifer Naidoo, Siemens Digital Industries, +27 11 652 2795, jennifer.naidoo@siemens.com, www.siemens.co.za

Meeting the needs of the mining industry

Both above and below ground, Varispeed keeps the interests of its customers top of mind, all the time. The company was recently approached by a platinum mine to assist with a robust application. Three induction motors were required to run a conveyor belt at the mine. These motors had to pull and share the load simultaneously and this was achieved through the drooping control method. Projects and services engineer, Jonathan Molepo, says that this is done by limiting inrush currents to the motors, controlling the speed and protecting the motors from various faults that may occur during the process. In addition, the solution was required to operate 1500 meters underground, in a harsh and hot environment. The solution needed to be as user-friendly as possible to ensure quick and easy setup, reliable operation and drastically reduced belt stoppages.

“We looked to a 3-phase VSD motor that could drive the load. These motors were then mechanically coupled to a gear box for high torque and speed reduction and we installed 12 complete VSD panels” says Varispeed managing director, Ralph Real. Molepo adds that there was a careful balance between time to completion and the high quality required for this project. “The customer was pressed for time, so we needed to ensure a quick delivery whilst not compromising on the quality”. Varispeed took just under three weeks to build and deliver the 12 complete VSD panels. The customer has a five year warranty to ensure peace of mind.

For more information contact Varispeed, +27 11 312 5252, info@varispeed.co.za, www.varispeed.co.za
Energy Efficiency
DRN IE3


Introducing the new, energy-efficient IE3 asynchronous AC motors from SEW-EURODRIVE (Pty) Ltd. Marginal changes have been made to the weight and dimensions compared to the globally-successful IE2 DRE series. The IE3 DRN motors can be combined with the same gear units as the IE2 series.

Features: Class H, IP65, aluminium up to DRN180, cast iron from DRN200 and above, foot or flange mounting, multi-mount capable terminal boxes for convenient cable entry, and unique detachable feet for easy replacement and handling changes.

Power Range:
- 0.75 – 315kW
- 230 – 690V/ac

SEW-EURODRIVE – Driving the world

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Decentralised electric drives from Festo

The Festo Simplified Motion electric drive series combines the simplicity of pneumatics with the advantages of electric automation to ensure that your machines are faster and better connected. It includes Spindle and Toothed Belt Axis ELGS-BS/-TB, Mini Slide Unit EGSS, Toothed Belt Axis Unit ELGE-TB, Electric Cylinder EPCS and Rotary Drive ERMS. The drives offer an integrated drive solution for simple motion tasks and enable operation without any software in accordance with the plug and work principle. The parameters for the advancing and retracting speed, as well as the pressing and clamping force, can be set for path and manual operation.

Thanks to the intuitive, quick and easy commissioning directly on the drive, configuration does not require any software or specific know-how. The motion can be controlled via digital I/O as with a pneumatic valve. End position feedback provides information about the completion of the motion task.

Advanced user functions are provided via IO-Link, including convenient remote control, parameter copy, backup function and read functions for advanced process parameters. IO-Link enables the drives to communicate intelligently from the controllers to the cloud for simple motions as well as easy handling, commissioning and actuation. Products from the Simplified Motion Series contain Digital I/O and IO-Link controllers as standard.

The simplified functionality makes the drives perfect for simple motions between two mechanical end positions. This is without having to sacrifice optimised motion characteristics, gently cushioned advancing and retracting into the end positions, or a simplified pressing and clamping function.

For more information contact Festo South Africa, 08600 FESTO (33786), marketing.za@festo.com, www.festo.co.za

ZEST Weg to offer geared motors

A new range of WEG geared motors will soon be available to customers in South Africa and the rest of the continent from Zest WEG. The WEG WG20 range is a natural extension of the company’s offering in electric motors. “To reduce lead times the geared units will be assembled in South Africa,” says national sales executive, Johan van Niekerk. “Zest WEG has made a substantial investment in new assembly facilities, including hydraulic presses and assembly tooling. Underpinning our quick turnaround time will be our skilled employees and local stockholding of a full range of gears, flanges, housings, shafts, bearings, oil seals and other components.”

The components for the geared motors are manufactured by Watt Drive in Austria, an established gear technology specialist and part of the global WEG group. Watt Drive offers a complete range of combinable drive systems for production machines and industrial manufacturing plants. In addition to providing high quality components, the company is also training Zest WEG personnel at its Austrian facility and will regularly send technical experts to continue building capacity in the South African operation.

“A key improvement delivered by geared motors is their high level of efficiency,” says van Niekerk. “Only about 1.5% of mechanical efficiency is lost per gear stage, so a two-stage gear unit would be about 97% efficient.” He highlights that they are also very reliable, robust and durable, making them economical to maintain.

For more information contact Zest WEG Group Africa, +27 11 723 6000, info@zestweg.com, www.zestweg.com
A leading systems integrator for the automotive industry has adapted a Maxolution electrified monorail system (EMS) and 23 HK Series gear units for overhead trolley systems from SEW-Eurodrive for a major upgrade and expansion project. The major benefit for the client is that SEW-Eurodrive is able to supply the complete system, from the stationary control level to the sensors themselves. Maxolution allows for highly accurate simulation for trouble-free start-up, production support and project acceptance. The modular EMS is tailor-made for specific production requirements and is integrated seamlessly into the existing system.

McCormick Engineering system designer, Jaco Viljoen, points out that a great deal of control was needed on the hoist drives due to the high level of accuracy required. The HK Series consists of special gearmotors with integrated couplings, making them ideal for overhead trolley systems such as those deployed at automotive manufacturers.

The main project had two components, with one consisting of engine and gearbox delivery to the main line and the second a transfer system moving a half-built chassis overhead from one floor conveyor to another. Nine HK Series were used on the one part of the project and 14 on the other. The trolley and hoist units operate together seamlessly in terms of the total EMS at the plant.

When the automotive manufacturer called for secondary hoist brakes to be installed for added safety precautions, SEW-Eurodrive was again able to help. This resulted in a significant cost saving for the client.

For more information contact Jana Klut, SEW-Eurodrive, +27 11 248 7000, jklut@sew.co.za, www.sew-eurodrive.co.za

MOOG has launched a new generation electrohydrostatic pump unit (EPU) that helps machine builders and end-users derive the combined benefits of both hydraulic and electric actuation. The EPU is at the heart of electrohydrostatic actuation and helps enable the deployment of a decentralised drive system. This eliminates the need for a hydraulic power unit and complex piping, thereby reducing the overall machine footprint. The compact product design features a unique interface that enables direct mounting onto a cylinder, thereby minimising the requirement of additional space on each axis.

The EPU has been developed to meet the needs of OEMs, system integrators and end-users, who increasingly seek cleaner energy-efficient products without compromising on the requirement for high forces. It is designed for easy installation and commissioning and can be mounted directly onto a cylinder, thereby reducing the number of components required. The self-contained units have a reduced chance of leakage and breakdown and help lower ongoing maintenance costs and the total cost of ownership.

The electrohydrostatic pump unit is available either as a stand-alone product or as an entire system, called the Electro-hydrostatic Actuation System (EAS). The EAS combines the electrohydrostatic pump unit and any optional parts a customer might need, such as drives, controllers, manifolds, or cylinders. All components are MOOG products that meet the highest standards of reliability and quality.

For more information contact Willie Steyn, MOOG, +27 12 653 6768, wsteyn@moog.com, www.moog.com

For more information contact Jana Klut, SEW-Eurodrive, +27 11 248 7000, jklut@sew.co.za, www.sew-eurodrive.co.za
Electromechanical motion products for today’s machines

Older engineers will remember the days when machine design had to be based on catalogued electromechanical actuators. Variations from standard were rare, and expensive. Fast forward 40 years and today’s machine designers expect highly configurable and adaptable products and motion technology suppliers have developed their product portfolio specifically for them. Here are some key factors to help in the selection of electromechanical motion products for the machines of today.

Stroke capacity
Among the fundamental questions to ask is: Does the actuator offer various stroke lengths as standard? A product using a ball or leadscrew drive is commonly restricted to stroke lengths up to around two metres maximum for practicality. Some actuators offer strokes to four metres, however speed is often limited due to screw whip. Very long stroke lengths can, however, be achieved by belt drives, which perform to a similar level regardless of stroke length, but lack the precision of a screw-driven product. A further option is linear motor-driven products, which perform extremely well with increases in stroke. In addition, linear motors do not demonstrate speed restrictions at longer strokes and offer the same repeatability over the full stroke.

Scalability
Machine builders should determine if the actuator is available in a number of different frame sizes or widths. Having a family of products to select from allows the project to be cost-optimised. Moreover, many multi-axis applications demand different loading for each axis. Having multiple drive-train choices in the same product can be extremely useful to a machine designer.

Modularity and performance
Electromechanical actuators often need to be connected to other actuators or mechanical devices. The ability to combine linear actuators into XY, XZ or XYZ assemblies quickly and effortlessly is vital, and most modern electromechanical products can be bolted together like building blocks, without the use of transition plates for XY systems. Performance-to-size ratios should also be considered carefully. Using a product that is highly condensed leaves more space for machine designers to include end effectors and tooling. For this reason, metrics such as thrust or rated load per height-by-width become important.

Selective resolutions and encoder types
To retain good servo control, an actuator should have up to ten times more resolution available than the repeatability of motion required. Being able to adjust the resolution is also important. In using analog feedback signatures, two analog signals are passed from the encoder to the drive, 90° out of phase with one another. Equivalent resolution is established within the drive, and is dependent upon the pitch of the linear scale and resolution of the drive’s analog input.

Flexible encoders
Flexible resolution is another major benefit. In applications that do not require especially high levels of precision, magnetic encoder technology is a cost-effective option, while applications that do require high precision but not long stroke lengths benefit from the very high resolutions of capacitive encoders. Inductive encoders are popular for applications directly exposed to heavy contamination, such as coolant from a machine tool. Applications which require constant positional information will require an absolute feedback source. With regard to communications, until recently most encoder protocols were based on embedded proprietary signals, which meant that designers had to use a limited list of manufacturers. Today, open standard protocols allow design engineers to use a variety of products and even reduce installation and cabling efforts.

Digital design
In cutting-edge design software, finite element analysis can be used to understand not only the deflection characteristics, but also the thermal or magnetic variations within the product. Naturally, these simulations cannot give results with 100% certainty as they are only as good as the algorithms and assumptions that are used, but modern machine design is starting to leverage these digital design methodologies more heavily to expedite development.

Metrology test data
Test data from metrology can be used to take ballscrew backlash into account and improve overall system accuracy. Selecting products from a design partner that understands the mission-critical aspects of the application and tests will prove particularly advantageous.

Summary
The demand for faster turnaround time on machines has become critical. Key to the machine-building race is selecting the right product from a manufacturer that understands the daily design hurdles and has systems in place for rapid machine development. Factors such as breadth of product, range of options, modularity and product test data should be taken into account when designing the machine. This strategy will enhance the machine builder’s ability to respond to customer needs, and provide faster ROI.

For more information contact Lisa de Beer, Parker Hannifin SA, +27 11 961 0700, lisa.debeer@parker.com, www.parker.com/za
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Sun has just released the DWBF, a new FLeX Series 3-way, direct-acting, solenoid-operated directional blocking poppet valve with two extremely low-leakage poppet configurations. They are ideal for load-holding and pilot circuits requiring low leakage. The options are:
- DWBF-XAN – normally open 1-to-2, closed 2-to-3.

This new blocking poppet valve with extremely low leakage of less than one drop per minute is well suited for use in load-holding circuits where it can be used safely to lock a load in place or in pilot circuits requiring low leakage. And with 10 million cycle reliability and 1000 hour salt fog protection, they can stand up to the most demanding applications.

Like all FLeX Series valves, the DWBF is compatible with both the 740 Series high-power coils and the 747 Series hazardous-location coils.

The FLeX Series also includes two 2-way, direct-acting directional blocking poppet valves – the DTAF and DTBF. They also offer extremely low leakage, and when configured as normally closed they are well suited to load-holding applications.

For more information contact Fritz Kern, Axiom Hydraulics, +27 11 334 3068, fritz@axiom.org.za, www.axiomsa.co.za

As part of its accumulator service package, Hytec Fluid Technology (HFT) conducts legal parameter conformance testing on bladder accumulators. The offering proves accumulator conformance to PER and SANS 347 standards. HFT tests and recertifies 1 – 50 litre-capacity Bosch Rexroth, Olae and Hydac bladder accumulators. Other bladder accumulator brands, if accompanied by design drawings and parameter specifications, are also tested at the company’s accumulation certification centre in Spartan, Johannesburg.

To test accumulator vessel expansion, vessels are subjected to a hydrostatic pressure test to 1,25 times the vessel’s working pressure – overseen by the Authorised Inspection Authority. Certified accumulators conform to the OHS Act (PER and SANS 347) with accumulators classified ‘Industrial & Factory’ certified for 36 months and those classified ‘Mine Health & Safety’ certified for 24 months.

“Testing accuracy on all parameters of reference is done to six decimal points,” says HFT workshop foreman, Tony Greef. “This allows for extremely accurate parameters to reflect, and the most on-point certificate to be issued.” Vessel wall thickness is verified using a five-point ultrasonic thickness test. In addition to recertification, the accumulator service includes accumulator stripping; double cleaning; and reassembly with a new bladder, seal kit and anti-extrusion ring. Protective paint forms part of vessel refurbishment and recertification.

Three accumulator units can be bench-mounted, harnessed and tested simultaneously, facilitating an approximately 60 minute testing turnaround per vessel. All test work is carried out on the HFT on-site accumulator test bench, an R800 000 investment developed by Tectra Automation.

For more information contact Wynand Kapp, Hytec Fluid Technology, +27 11 976 7300, wynand.kapp@hft.co.za, www.boschrexroth.africa
BMG has recently launched a new range of portable hydraulic electric Enerpac E-pulse pumps, which are critical to all 700 bar operating hydraulic systems. These E-pulse pumps have intelligent auto-cycle functionality and an efficient power to weight ratio, to ensure dependable operation and high productivity in challenging industrial applications.

E-Pulse pumps, with a compact design and well organised components, are fitted with a smart, brushless DC motor and controller that automatically varies the speed to maximise flow at any pressure.

“Our new lightweight Enerpac pumps are able to provide power to various 700 bar hydraulic cylinders, nut cutters and torque wrenches quickly and efficiently. E-Pulse pumps are able to operate hydraulic tools as fast as pumps with motors larger than 0,75 kW. These pumps are currently the only hydraulic torque wrench pumps on the market with intelligent auto-cycle functionality and are the only pumps available that allow an operator to vary the speed between 25% and 100% of full speed,” says Enerpac product manager, Chantelle Janse van Rensburg. “E-Pulse hydraulic electric pumps have an adjustable speed dial which allows the operator to adjust the speed to suit the specific task, ensuring precise control of large and small hydraulic cylinders and nut cutters, as well as quick and safe completion of work.”

For bolting applications, the operator can set the pressure and operate the torque wrench pump in either ‘manual’ or ‘auto-cycle’ mode. The intelligent auto-cycle function enables press-and-release actuation to the cycle wrench until final torque is achieved, significantly improving completion speed in every application.

The E-pulse range features a new interactive pendant that delivers visual and tactile feedback, as well as programming and diagnostic status to the operator. The IP67-rated pendant, with protection against the ingress of dust and water, can be stored in the handle of the pump and is secured via a magnet. Operation, programming and diagnostics status are communicated to the operator through yellow, green and red light emitting diodes (LED) as well as vibration pulses. Fault codes indicate any issues related to voltage, temperature and button malfunction, or if professional service is required.

The new E-series pump range is a high-performance pump, with a 63 kW direct-drive motor, has a six-piston block design that provides even flow and smooth operation of connected tools. Various models are available, with a choice of five valves: 3/2 jog, 4/3 jog, 3/2 dump-and-hold, 3/2 dump and 4/2 torque wrench. Flow at rated pressure is 520 ml/min, with a maximum operating pressure of 690 bar.

Additional features include a 24 V DC power regulator, built-in thermal protection, a 7 metre pendant cord on the torque wrench pump and a 3 metre pendant cord on the other four pumps. All models in this range are fitted with a convenient cord management system.

BMG’s E-series pumps feature an IP54-rated durable aluminium housing which encloses the system components for maximum protection and easy service accessibility. These torque wrench pumps are fitted with an Enerpac Speed-D-Coupler pre-calibrated (calibration certificate included), 10 cm gauge and feature an integrated heat exchanger that cools the pump during operation. System components are enclosed for added protection and housing fins provide heat dissipation. Other features include impact absorbing, vibration dampening feet and an integrated roll-cage design.

This system has been designed for easy access to components during maintenance procedures. The pump has an oil level indicator, convenient oil fill port as well as automatic breather which needs no adjustment. Draining of oil is not required for pump element maintenance.

BMG’s range of Enerpac high-pressure hydraulic equipment ensures quick, safe and dependable operation in many industries, including mining, oil and gas and power generation, as well as infrastructure and manufacturing.

For more information contact Chantelle Janse van Rensburg, BMG, +27 11 620 1606, chantellej@bmgworld.net, www.bmgworld.net
Technologically advanced industrial machinery requires hydraulics to provide more efficient and quieter solutions with a smaller footprint, while maintaining the benefits traditionally associated with hydraulic systems, including high power density, precise control and enduring performance. But historically these benefits have typically come hand in hand with inefficient energy allocation, heat generation and noise.

Conventional hydraulic power units require large-capacity pumps and motors to ensure steady performance during the highest duty cycle of the system. When energy costs were significantly lower and environmental regulations less stringent, the wasted energy and resulting carbon emissions were seen as inconsequential. However in today’s eco-conscious and globally competitive economy, changing to systems where power is tightly modulated to the requirements of specific tasks within highly complex hydraulic systems is essential.

In light of this, REP International, a specialist in the construction of injection moulding machines for the rubber, thermoplastic and other polymer industries, was looking for an innovative solution that would add energy efficiency as one of the defining features of its machines. The company turned to the research and development expertise of Parker Hannifin to develop an innovative immersed servo pump system to reduce the energy consumption of its machines significantly.

A complete, single-source system solution
Hydraulic power has long been utilised in industrial processes such as injection moulding. This is due to the inherent advantage of being able to transmit a large amount of power via a relatively compact system of pipes and hoses. In many of these systems, the source of pressurised hydraulic fluid is the hydraulic power unit (HPU).

The most energy efficient alternative was an immersed servo motor pump system consisting of three separate elements: a pump, a servo motor and a drive for control. The idea was to replace the self-regulating pumps with a solution that could very accurately match a flow rate to a real need.

“The principle is this: if I adapt the flow, I also adapt the speed,” explains sales manager, Vincent Sinot. “The general principle is to use the rotational speed of the motor to control the flow rate at the pump outlet.”

With plastics machinery, there are many auxiliary movements in addition to opening and closing the moulds, plasticising and injecting. These movements take place partly sequentially but also occur in parallel. They must therefore be supplied centrally with the required flow and pressure. The often brief cycle times also demand supply with the highest dynamics. With the maximum speed of a small pump, a very high-volume flow can be achieved. This significantly reduces investment costs.

The flow and pressure regulation – controlled by the speed and torque of the servomotor – offers undeniable advantages; not only in regard to the reduction of energy consumption, but also the simplicity of the installation of the hydraulic components.

Developing drive controlled pump technology
Based on this fundamental modification of hydraulic constant pressure systems, Parker has developed an entire new generation of efficient hydraulic drives. The hydraulic electromechanical drive can be connected to a speed-controlled, electrohydraulic full-system solution called the drive controlled pump (DCP).

By utilising an alternating current drive controller, the speed range can be regulated and tailored in advance to a predefined cycle. The precise amount of hydraulic energy required can therefore be generated for any particular point in time during the machine’s duty cycle, leading to cost savings for cycles with high part load amounts.

When selecting pumps, the most important considerations should not only be output but also minimum and maximum speeds. A smaller size generally enables higher speeds and causes lower noise emissions. In contrast, the minimum speed depends more on the design than on the size. When considering the various requirements, two pump technologies are preferable: the vane pump (best for fixed displacement pumps) and the axial piston pump (recommended for high peak or long term pressures).

In order to put together an energy efficient motor pump combination, the individual components must be selected in such a way that the sum of all losses in the specified operating points is at a minimum. Parker’s DriveCreator software tool enables the selection of the best combination of components with the highest degree of energy efficiency.

For more information contact Lisa de Beer, Parker Hannifin SA, +27 11 961 0700, lisa.debeer@parker.com, www.parker.com/za
HFT offers fluid conditioning equipment for hire

To aid plants that are unable to procure capital equipment for their fluid power applications, Hytec Fluid Technology (HFT) offers a range of Hy-Pro filtration fluid conditioning equipment for hire. These units are available on a day-to-day or month-to-month rental contract. A comprehensive equipment inspection checklist ensures all equipment is production ready before leaving HFT’s premises in Johannesburg.

HFT’s fluid conditioning equipment hire range consists of transfer units (filter carts); vacuum dehydration units; compact filter units; soluble varnish removal skids; diesel coalesce and filtration skids; high viscosity filter carts; portable fluid monitoring devices; heated filtration systems; phosphate ester conditioning systems; and COT turbine oil conditioning systems.

“All equipment is versatile in that it can be used to suit a variety of applications without any major modifications,” says general manager, Sandor Bottyan. He adds that the running costs of Hy-Pro fluid conditioning equipment are significantly less than those from competitor companies.

Generally used for applications in the power generation, steam, marine, aviation, process and injection moulding industries, as well as refineries, all hired equipment is available directly from HFT. “Making this equipment available to plants for rental periods is another example of how we live our motto ‘We Move, You Win,’” Bottyan concludes.

Hytec Fluid Technology stocks and supplies a wide range of fluid conditioning equipment backed by expert technical support. The company is ISO-9001 accredited.

For more information contact Sandor Bottyan, Hytec Fluid Technology, +27 11 971 9400, sandor.bottyan@boschrexroth.co.za, www.boschrexroth.africa

Commercial Shearing’s valve test stand

Commercial Shearing’s hydraulic valve test stand enables the company to offer a valuable service to its customers, helping them to achieve major cost savings in replacement valves. Based in Jet Park, Boksburg, Commercial Shearing is a major supplier of hydraulic equipment and solutions to the mining, earthmoving, agricultural and forestry industries.

With this test stand, Commercial Shearing can fully test all functions in its wide range of mobile control valves. These include flow, port and main relief valves with spool leakage, pilot and solenoid functions and set individual spool flows; and port pressure relief valves. Options available include open, closed centre, load sensing, pilot and solenoid operated.

The test stand is equipped with three hydraulic pumps:
- A load-sensing piston pump with pressure up to 310 bar at 100 l/min.
- A gear pump with pressure up to 240 bar at 47 l/min.
- A gear pump with pressure up to 220 bar at 9 l/min.

It also has a flow meter capable of measuring up to 250 l/min for setting individual section flows on stackable valves. The valve shown under test is the model VP Pulsar proportional control valve which has a maximum flow of 190 l/min and a working pressure up to 350 bar.

For more information contact Ken Beaumont, Commercial Shearing, +27 11 397 4264, comshear@global.co.za, www.commercialshearing.co.za
Besides being a leading supplier of industrial automation components, SMC South Africa also offers value-added services. One of these is in-house control panel design and construction. This takes a labour-intensive and time-consuming task away from customers who are not in the business of panel design and construction.

The local and international SMC production departments offer dedicated design facilities using the latest CAD package and have vast experience in panel layout and design. During the consultation process, all the panel requirements are captured and loaded as a unique project onto an internal project management system, EPICS. This system creates a project that manages customer data, drawings, communication, quotes and any other relevant information, and allocates a unique project number that can be accessed at any time during and after completion of the project. Each panel is given a unique part number that can be reordered at any time, and will be an exact replica of the original. Another important aspect is the correspondence log, which stores all communication between the sales engineer, the sales engineering department (SEG) and the local or international production department. The idea is to create a centralised database of all projects that can be accessed by any of the SMC subsidiaries worldwide. Project workflow is as follows:

1. Sales engineer captures information from the customer.
2. Sales engineer creates a project using EPICS and forwards on to the SEG.
3. SEG verifies project information and feasibility.
4. Project is sent to the production department.
5. Drawings are created and budget prices loaded.
6. Sales engineer presents drawings to the customer.
7. Drawings are accepted or modified as requested.
8. Signed drawings are loaded onto the project.
9. Official pricing is loaded onto the system.
10. Panel goes into production.

During production, strict control is adhered to, ensuring the high-quality workmanship customers have come to expect from SMC. All completed panels are tested, checked against the final specifications and packaged for dispatch. Industries supported include automotive, packaging, pharmaceutical, mining, food and beverage, OEMs, and water and wastewater.

Other services offered by SMC South Africa include customised cylinders, local valve terminal and air service unit configuration and production, airline audits, and expert consultation on any of over 12,000 products.

For more information contact SMC Corporation South Africa, +27 11 100 5866, zasales@smcza.co.za, www.smcza.co.za
Pneumatic and electric grippers

Gimatic is a leading global manufacturer of pneumatic and electric grippers for industrial automation. The company specialises in the production of vacuum cups (flat and bellow), pneumatic nippers, air hands and End of Arm Tooling (EOAT).

Its plastics range consists of components that in various combinations create specialised gripper systems that enable any type of robot or automatic equipment to efficiently and safely remove injection-moulded products from their moulds.

These EOATs enable the operator to handle products without damaging them, moving them quickly or inserting them into the finishing cycle in assembly operations. The plastics range offers a selection of perfectly integrated, compatible and uniform items to meet any requirement.

Gimatic also designs and builds customised systems and solutions for specific applications. With its ongoing focus on the most modern technology available, Gimatic enables clients to get more from their machinery and production, resulting in increased efficiency, longer lifespan and reduced waste.

Offering the smallest of parts in the pharmaceutical and electronics industries (thanks to grippers, vacuum cups and miniaturised suspensions) to larger objects in automotive industries (with the help of frames, slides and guides with exceptional precision and high load capacity), Gimatic’s global network provides integrated solutions ranging from robot arms to the smallest peripheral finishing nippers.

The parent company in Brescia, Italy, has a widespread established network backed by two local technical expertise centres, one in Serbia and one in China. Gimatic currently boasts 20 branches worldwide.

Over 10% of its annual turnover is ploughed back into research and development to expand its business worldwide. Markets include automotive, robotics, food and beverage, pharmaceutical and medical, and factory automation.

For more information contact Ray Williams, Gimatic, +27 82 806 2600, r.williams@gimatic.com, www.gimatic.com

Complete vacuum process and industrial automation solutions

Berntel is introducing several new product ranges through the Bearings International (BI) branch network. These include Ober, an Italian designer and manufacturer of portable pneumatic tools, motors, automated machinery and systems for drilling, tapping, threading and screwing, including power screwdrivers with electronic torque control; compressors and dryers from German manufacturer BOGE; and smart vacuum solutions from Piab.

In addition, Berntel represents a range of well known brands, such as JELPC pneumatics, Piab vacuum components, JORC Industrial condensate drain management, VMECA water-free units and Belef actuation. The main applications are food and beverage, automotive, general industry, sugar, pulp and paper, OEMs, machine builders and agriculture. The complete solutions available focus on the efficient generation of clean, dry compressed air to condensate drain management, pneumatic, vacuum, process and industrial components and designing and programming control systems with PLC integration.

“Berntel focuses on solutions specifically for vacuum process and industrial automation. It is a nicely mixed product range that offers a complete package. We have strived to make a simple and user-friendly basket for a range of requirements and applications,” explains Berntel general manager, Neil Champion. “Being part of the Hudaco Group allows BI to leverage synergies across a broad range of companies, so it can offer a complete product basket at its extensive branch network countrywide,” concludes Strobel.

For more information contact Bearings International, +27 11 899 0000, info@bearings.co.za, www.bearings.co.za
The impact of the Covid economy on the compressed air market has left its mark. The ability of importers like Artic Driers to import equipment was severely affected due to massively increased air freight costs, along with a slowdown at docks due to reduced staff levels. “This situation will not change for many months,” says Artic Driers International CEO, Allen Cockfield.

Artic is an essential service supplier, so its operations have continued at a reduced capacity. To compensate, Artic has developed Pro Bono, a totally locally made low dewpoint air dryer rig for breathing air systems, that can be used in a Covid emergency hospital unit. “The project was challenging but interesting, especially the design of a variety of filter casings to be built locally for these sets,” adds Cockfield. “It was a logical progression from what we have been doing quietly for the last 12 months. Artic has built a large number of low dewpoint heatless adsorption air dryers of different sizes for a range of clients in widely different industries.”

Due to the Covid-related transport and freight restraints, the new SA series of dryers has only now been officially released. The range will provide clients with shorter lead times than imported units. The units are less expensive, and most importantly they use local materials, labour and suppliers. Ranging from 3 to 42 m³/min at pressures up to 15 bar, the SA series will suit the needs of the majority of Artic’s clients. The smaller modular HDD series dryers less than 3 m³/min will continue to be imported from Malaysia.

The SA series of dryers is conservatively designed and based on 30 years of Artic Driers experience. Long contact times and larger than normal desiccant loads mean that the dryer can provide -40°C PDP compressed air for a manufacturing plant or a medical facility with ease. Heavy-duty design and construction, along with simple controls, have been deliberately included to ensure reliability and ease of maintenance on site.

The IP45 panel has a simple adjustable timer sequence. The control panel timing sequences can be changed easily on site if needed. Another feature is the use of an optional dewpoint probe to display drying performance in the straight timer mode, or the dryer can be controlled by the same probe and the timing cycles can be prolonged, thereby reducing compressed air purge losses.

These features do not result in a high cost of ownership. Prices are competitive and well balanced. “This fact is borne out by the number of dryers currently in the build programme for clients,” concludes Cockfield.

For more information contact Allen Cockfield, Artic Driers International, +27 11 420 0274, allen@articdriers.co.za, www.articdriers.co.za
Swedish equipment manufacturer, Ecmec, has developed a high-tech machine for a supplier to the automobile industry that can complete several process steps simultaneously without having to remount the part being worked on. The machining centre is designed for high-volume production of up to 200 000 parts per year and performs its functions and processing steps simultaneously within the same cycle. The machine reduces the previous processing and conversion times by more than one third, while requiring less of the valuable shop floor space. Beckhoff supplies TwinCAT 3 automation software for the Ecmec machine’s PLC and NC operations as well as the main spindle and forward-feed drives.

Ecmec produces hydraulic and mechanical fixtures, accessories for robot grippers and customised machines for assembly, part handling and machining operations. The latest example is the newly developed Ecmec Special Purpose Machine (SPM) machining centre, which integrates and simultaneously executes all steps for processing up to 200 000 pressure die castings per year for the automotive industry.

From drawing board to finished machine in record time
When equipment manufacturers design a customer-specific machine, they must keep an eye not only on component costs but also on development expenses. For this reason, the time from first draft to delivery should be as short as possible. “Since we don’t build a machine of this magnitude every day, we looked for a partner who could supply control and drive components designed to meet customer requirements,” says Daniel Eklund, managing director of Ecmec.

The challenges were considerable. Parts that were previously made on two machine tools with three to five axes had to be processed by a single machine operating 18 NC axes simultaneously. Two main spindles are designed as four-axis units, meaning they can move freely along the X, Y and Z axes as well as rotate and tilt. Another three main spindles move as three-axis units supplemented by an additional one-axis main spindle. With this configuration, workpieces can be machined on all sides without having to be remounted. A tool changer with four different tools makes the design even more flexible.

“The Ecmec SPM employs a totally different set of processing methods compared to traditional machines and does everything much faster,” explains Eklund. “It processes the workpieces roughly 33 percent faster than conventional machines and requires less machine footprint.”

Precise motion control with faster response times
“Addressing all 18 axes simultaneously requires a fast and powerful control system, which is where Beckhoff came into play,” says Eklund. “Beckhoff was able to meet all the customer specifications. The flexible hardware design was another reason for the decision to select Beckhoff technology. The Beckhoff system is very powerful and easy to operate, which is something we truly appreciate. It is a prime example of German engineering.”

At the core of the machine is TwinCAT 3 NC I software, which controls the six mechanical spindles simultaneously. As a highly scalable system, PC-based control also provides the best possible hardware platform for this application. The TwinCAT real-time kernel and the ultra-fast system communication over EtherCAT offer ideal conditions for high-precision motion control. Eklund explains: “This platform provided very fast control properties and a much faster response time than the conventional PLCs we used in the past, which was one of the main reasons why we selected PC-based control technology from Beckhoff.”

Control and drive components from a single source
The Ecmec SPM is controlled and operated via a C6930 control cabinet industrial PC with a custom-designed CP3921 multi-touch control panel featuring push-button extensions. The user interface is TwinCAT HMI for NC processing, which is easily programmable based on standards such as .NET. The axes and I/O channels are configured via TwinCAT Engineering with NC I functions.

The two main spindles are equipped with AM8000-series servomotors with speeds of up to 11 000 rpm. The other four spindles ensure a high degree of processing efficiency for downstream processing steps as well. The maximum feed rate is 30 m/min, and the maximum acceleration rate is 0,2 g. The six main spindles and 12 servomotors are controlled by Beckhoff AX5000 servo drives for exceptionally fast and dynamic positioning. In addition, One Cable Technology (OCT) saves a significant amount of installation space.

For more information contact Dane Potter, Beckhoff Automation, +27 79 493 2288, danep@beckhoff.co.za, www.beckhoff.co.za
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Robots in South Africa

Managers in South Africa experience significant challenges and there are many obstacles that prevent industries from pushing forward into a new era of automation and robotic solutions. Due to the effects of COVID-19, many businesses might not have a choice but to rapidly adopt these technologies – especially if they wish to survive in this new contactless society. Automation is no longer a sub-point in a five year roadmap, but an item of critical importance.

Stringent health and safety measures have always been a massive concern for manufacturers, but many organisations will need to double their efforts to meet the new requirements in the post-COVID-19 world. Yaskawa Southern Africa chairman, Terry Rosenberg, says robotics in South Africa is already operating to international standards.

"Since our products come from an international source, they already adhere to the strictest health, safety and quality guidelines," he explains. "As a result, we insist on the same standards in our operations. When a client purchases equipment from us, we recommend they take the mechanical and electrical safety facilities we offer as part of the robotic solution, to ensure safe and responsible machine usage. Further to this, we offer prescribed training for the safe, functional use of the equipment once in the production environment."

At the same time, Yaskawa is educating and preparing its clients to operate robots to the required global standards. "We have a special academy designed for end-user training," Rosenberg explains. "This school provides modules on the basics of robotics, as well as the specific training for the application. Not only will the end-users learn how to use and program the equipment, but they’ll also be taught how to operate it in a safe environment. Furthermore, we provide ongoing training for new employees and other applications that might be introduced at a later stage."

Globally, the automotive industry accounts for a significant portion of every robot produced. According to Statista, the automotive robotics market is the second largest industrial robotics market. It is no different in South Africa, where the sector is one of the largest users of robotics solutions. That being said, Rosenberg has seen the adoption of robotics in another key industry.

"We’ve seen growth in the food manufacturing industry, particularly in the material handling aspect of the production line, where robots are used for the packing and palletising of large volumes of products," he continues. "When there are mass quantities and heavy lifting, robots are capable of performing the functions that might be too dangerous or impossible for humans to execute."

He adds that the food manufacturing industry is also cognisant of the impact of the 2017 listeriosis outbreak and now COVID-19. There is a need to increase the cleanliness of operations and remove human contact. This can be achieved through the use of robotic solutions.

One of the most common misconceptions about robotics is that it is strictly aimed at large enterprises. Rosenberg stresses that this is not the case. In fact, he has seen a substantial interest and increase in the usage of robots in the SMME sector in recent times.

"For some smaller companies, the only way they can produce the required quantity of products is through the use of robotics," he explains. "As an example, we encountered a small company that operates its dispenser business from a farm. Due to the current pandemic, the demand for its automatic dispensers drastically increased. In order to meet the demand, the solution was to implement a robot that is able to work around the clock."

While increasing its production, this business has also had to expand its labour force by 50%, thereby creating more jobs. "There’s a fallacy that robots replace human workers," Rosenberg says. "That isn’t the case at all, because we’ve seen robotic powered industries turn into global giants that employ more people over the years. These organisations have been able to grow and add to their ranks thanks to technology. There will always be a need for people to complete challenging tasks that require human reasoning."

For more information contact Brenda Herrero, Yaskawa Southern Africa, +27 11 608 3182, brenda@yaskawa.za.com, www.yaskawa.za.com
For the first time we bring together our core global motion control technologies in a single unifying force. Through insight, intelligence and innovation we provide solutions to meet the increasingly complex demands. This is Parker helping to solve the world’s greatest engineering challenges.
BOLÇI Bolu Chocolate produces over 200 tons of chocolate items each month. The company needed to meet its promise of delivering chocolate products that are ‘untouched by human hand’. Omron and Innovas joined forces to commission a line of three Omron robots in the packaging section of the factory’s production line, with the aim of enhancing production quality.

BOLÇI currently exports to 13 countries but wants to increase this number each year. It also wants to build its production capacity and efficiency; minimise any production errors; and improve its infrastructure. Prior to introducing the Omron robots, the chocolates were placed manually into dividers in the packaging area. However, the company faces seasonal variations in demand and at special occasions in the year. As a result, sales could increase on a daily basis and the production needed to be adjusted accordingly.

Innovas is one of the leading system integrators in the food industry and was employed as the system integrator for this project. The integrator looked for a compact solution for this project and wanted to be able to supply everything from a single channel. Innovas has been using Omron products for many different applications over the years, including programmable logic controllers and servo systems and knew that it could meet the needs of this very special project. Omron also has considerable experience in pick-and-place applications for chocolate and food products. Omron suggested the four-arm Quattro robot, which is compact and has a unique kinematic structure. Innovas selected the robot because of its speed and flexibility as well as its ability to cope with the variety of products in the box. Omron also recommended its PackXpert programme, which uses a wizard-based user interface and meets the needs of applications in the packaging sector.

Omron has brought its innovations together in the form of i-Automation! – a concept based on developing the intelligent, integrated and interactive automation systems of the future. These systems will help manufacturers to achieve higher levels of efficiency, flexibility, safety, integration, quality and connectivity.

Innovas installed three Omron Quattro robots for BOLÇI. These are now used to pick-and-place the chocolates into the dividers, which has saved time considerably. The three robots work in sync with each other as part of an integrated system that includes visual inspection, safety and the robotic systems. Because chocolate is a very delicate material, it’s important that its shape doesn’t deteriorate during the process. This requires accurate positioning and a very precise handling of the product. The robots determine how many pieces will be put into the system each day and enable a repeatable quality and standard to be achieved.

So, how does the new system work in practice? One person places the dividers on the conveyor and the other feeds chocolates through the 12 feed channels. There is also a final visual check on the output of chocolates before they are sent to packaging.

The chocolates are brought to the robots by conveyors. The chocolates can be at different angles, but the camera system checks them and the robots capture the products with a vacuum system, based on the position and product information determined by the camera.

In the packaging area, the three robots place the chocolates into boxes and dividers. BOLÇI has about 40 boxes of different sizes and types. On a screen, the operator chooses the boxes to be filled and the appropriate mechanical adjustments are made. The system has four different chocolate feeding entry points for each robot. Up to 12 different chocolates can be stacked in four boxes at the same time.

The new robots have resulted in a 40% increase in production capacity. They have also enabled BOLÇI to give shorter deadlines to its customers. The robots have helped BOLÇI to reach its required production quality standards by minimising production errors and by enabling the company to provide quality products to its customers.

In the future, BOLÇI plans to increase its production capacity by extending the number of Omron robots it uses on the existing line. The company aims to complete its automation processes by implementing similar projects, with the ultimate objective of becoming a smart factory that can comply with Industry 4.0.

For more information contact Omron Electronics, +27 11 579 2600, info_sa@omron.com, www.industrial.omron.co.za
With ctrlX AUTOMATION, Bosch Rexroth is presenting the most open automation platform on the market, reducing engineering time and effort by between 30% and 50%. With this new platform, Bosch Rexroth has eradicated the traditional boundaries between machine control systems, IT and the Internet of Things. Centralised and decentralised automation topologies can now be created flexibly with the scalable platform. Thanks to a Linux real-time operating system, open standards, app programming technology, web-based engineering and a comprehensive IoT connection, ctrlX AUTOMATION reduces the engineering time and effort by 30 to 50%.

Nowadays, mechanical engineering is software development. The new ctrlX AUTOMATION platform is Bosch Rexroth’s answer to this market requirement. It encompasses the latest engineering software technologies and all PLC and motion tasks. Software functions are combinable in any number of ways with ready-made, customised and customisable apps. These apps can be created in a variety of programming languages such as C++, script languages such as Python, or new graphical languages such as Blockly. This gives machine manufacturers new-found freedom.

ctrlX AUTOMATION offers users a choice: they decide whether to program in IEC 61131, PLCopen or G-Code, or in conventional high-level or Internet languages. This liberates machine manufacturers from dependency on the availability of PLC specialists and proprietary systems.

Configuration and commissioning of the automation components is completely web-based, eliminating the need to install software. Within minutes of switching the system on, the software is programmed. A completely virtual ctrlX AUTOMATION system environment is available, enabling programming without hardware. System functionalities can be extended at any time via the user’s own process functions, apps and open source software. In total, ctrlX AUTOMATION cuts the engineering time and effort by 30 to 50%, which significantly reduces time to market for new machines.

More than 30 direct connection options and communication standards offer maximum networking flexibility for economical end-to-end connectivity from field level up to the cloud. ctrlX AUTOMATION is also equipped for future communication standards such as TSN and 5G, making it the best system on the market in terms of networking capability.

ctrlX AUTOMATION is based on a new generation of multicore processors which provide sufficient processing power for almost all automation tasks. These high performance CPUs can be integrated into embedded PCs and industrial PCs or directly into drives. The all new hardware and software module will cover all automation tasks – from simple control applications and IoT solutions to high performance motion control.

ctrlX will be available in South Africa through Tectra Automation, a Bosch Rexroth South Africa Group company, towards the end of 2020.

For more information contact Wiets Pretorius, Tectra Automation, +27 11 971 9400, wiets.pretorius@boschrexroth.co.za, www.boschrexroth.africa
SEW-Eurodrive sets the benchmark for Industry 4.0

With the advent of Industry 4.0 set to change the face of industry and production, SEW-Eurodrive has a range of solutions for its concept of the Lean Sm@rt Factory. This is based on the paradigm shift introduced by new technologies such as big data, embedded computing, IoT and cloud computing in the production environment.

The MOVIGEAR mechatronic drive system from SEW-Eurodrive is designed for flexible use across various communication infrastructures. It is ideal for decentralised field applications.

Features include a compact design and optimal integration of components with permanent-field synchronous motor, gear unit and integrated electronics.

MOVIGEAR is especially tailored for efficient use in the general materials handling sector. It is available in two sizes and three electrical performance classes for a total of four communication variants. Energy savings of up to 50% are possible due to the seamless interplay between the IE4-rated motor, efficient gear unit and integrated electronics.

“Perfectly matched components, combined with the energy optimisation of the overall system, facilitate high system efficiency. These features make the MOVIGEAR mechatronic drive solution a cost-effective, power-optimised, total solution,” says MD, Raymond Obermeyer.

Flexible, compact and intelligent MOVIDRIVE B drive inverters save space in the control cabinet. In addition, they are equipped with integrated IPOSplus positioning and sequence control as standard features. These inverters are ideal for asynchronous AC or synchronous servo drives.

Additional features are a broad power range from 0.55 to 250 kW and a high overload capacity. Based on a modular concept, the MOVIDRIVE B inverter is ideal to improve the flexibility and efficiency of a range of applications.

SEW-Eurodrive also offers the freely programmable MOVI-PLC motion and logic controller for solving complex tasks in a flexible manner. These scalable controllers are an ideal solution platform due to their universal operation and functionality. Comprehensive interfaces are available for the external periphery and for visualisation purposes so as to fully automate complete machines.

For fast and simple startup, users can take advantage of preconfigured program modules for many applications. The standard programming languages FBD, LD, IL and structured text ensure greater flexibility. MOVI-PLC provides the drive functionality necessary to match any specific application. It can be used wherever smart drive solutions are required.

“The basic concept behind Industry 4.0 is to leverage information technology in order to integrate business and engineering processes for more flexible, efficient and time-independent production in a range of applications and industries. At the same time, high quality and lower costs are a given. SEW-Eurodrive’s approach combines the basic tenets of Industry 4.0 with its benchmark-setting solutions and concepts,” Obermeyer concludes.

For more information contact Jana Klut, SEW-Eurodrive, +27 11 248 7000, jklut@sew.co.za, www.sew-eurodrive.co.za

For the complete Motion Control Buyers’ guide directory and product listings please see www.mcbg.co.za
**Upgraded grid couplings**

BMG has extended its range of power transmission components to include its recently upgraded Fenagrid Premium grid couplings. These taper grid steel flexible couplings accommodate angular, parallel and axial misalignment between driving and driven machines. They also absorb considerable torque overloads, achieving smoother running, with consequent reduction of wear and tear on machinery. The hubs are manufactured from a high strength hardened alloy steel, to withstand extremely high torque loads. Another important feature is that all couplings are dimensionally compatible with other leading power transmission brands. This means couplings can be interchanged quickly, with a minimum loss of production time. They have a trapezoidal cross-section and are tempered to spring hardness and through a shot-peening operation, the surface molecules are compressed by high-velocity steel micro-beads. The compression of molecules results in increased strength and flexibility, which means higher torque ratings and a longer L10 lifetime.

Fenagrid Premium grids have been designed to float, rock and pivot within the hub teeth. This provides generous capacity for misalignment, without producing detrimental axial loads on bearings that occur when couplings are misaligned. These grids are also able to deflect torsionally when subjected to normal shock or vibratory loads. The taper grid system is a shock absorber for rotary motion, relying on the predictable resilience of the grid for torsional flexibility. Due to their spring hardness and flexibility, the grids absorb impact by spreading the energy over time. They also dampen vibration and reduce peak or shock loads experienced by the entire mechanical system.

For more information contact Carlo Beukes, BMG, +27 11 620 7558, carlob@bmgworld.net, www.bmgworld.net

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**No weak links in this energy chain**

EKD energy chain from Powermite ensures seamless operation of cranes, milling and boring machines as well as other mobile equipment through the reliable and cost-effective protection of cable, hose and hydraulic supply at a fixed or variable speed. Available in galvanised steel, stainless steel and carburised hardened steel, the unrivalled wear resistance of Powermite’s comprehensive range of EKD Kolibri energy chain delivers exceptional reliability. This robust chain requires minimal maintenance and spares and can operate in extreme temperatures between -20 and 100°C. Three different types of energy chain are on offer to meet diverse application requirements: a one part link or flap-open link range, a wide range of bending radii (to facilitate large cables) and chain with separate end-connectors (each link can be used as an end-connector).

Powermite’s energy chain portfolio also extends to a plastic range consisting of self-extinguishing, ATEX anti-static, steel-coated and robotic bi-directional chain. All plastic chains are equipped with integrated connectors and therefore require very few spare parts, keeping costs and downtime to a minimum. The company also offers chains engineered for ultra-long distances. These chains, known as the Marathon System, use roller sets and are capable of maintaining speeds of up to 200 m/minute.

Powermite’s countrywide branch and distribution network carries a full range of spares for the entire EKD Kolibri energy chain range and delivers expert after-sales service support to customers and end-users across 15 African countries as well as in Mauritius.

For more information contact Jacques van Rooyen, Powermite, +27 11 271 0000, jacques.vanrooyen@powermite.co.za, www.powermite.co.za

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**Value packs from Lubrication Engineers**

Lubrication Engineers (LE) is making its industry leading products available in value packs designed to meet all the lubrication needs of everyday users. “We are bundling smaller sizes of our product offerings for our customers, so they have everything they need to meet their specific lubrication requirements without having to purchase industrial-sized containers,” says national marketing manager, Callum Ford. He says customers will also be able to customise the value packs, depending on their lubrication needs. They include:

- **Monolec Ultra engine oil that provides exceptional extended-drain service for diesel engines in mobile equipment and generators, all-weather performance and outstanding wear protection.**
- **Wirelife Monolec penetration solution that deals with rust in marine wire applications. It has excellent corrosion resistance and high load carrying properties. It penetrates to the core of wire ropes and is also excellent as a penetrating lubricant for chains.**
- **Wirelife Almasol coating solution that provides a tough outer coating to seal and protect against fretting corrosion, wear and rust, even under extreme load and moisture.**
- **Almatek general purpose lubricant that increases uptime and reduces maintenance and lubrication costs.**
- **An environmentally safe and cost-effective bioremediation process, OSE II, for the mitigation of hazardous waste, spills and contamination. It is ideal for oil spills or oil cleaning.**
- **Full Torque diesel fuel improver, a cetane boosted formulation that increases power, improves fuel economy, reduces emissions and provides smoother performance in any diesel engine.**

For more information contact Callum Ford, Lubrication Engineers, +27 11 464 1735, callum@lubricationengineers.co.za, www.lubricationengineers.co.za
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Sole Distributor/Sole Agency: Kompass; Meta
Shared Agency: Luen

Core business offering: hydraulic piston, vane and gear pumps, modular valves, relief valves with/without solenoid operation, hand control valves, check valves, relief valves, flowcontrol valves, overcentre valves, hosebreak valves, sequence valves, pressure switches and gauges, level gauges, filter breathers, bell housings, steel drive couplings, suction strainers, retumline filters, spin on elements, coolers, motors.

Alfagomma South Africa
17 Quark Crescent, Linbro Business Park, Sandton
Tel: +27 11 2 001 0900
lorraine.victor@alfagomma.co.za
www.alfagomma.com

Manufacturer: Alfagomma; Argus; Dunlop Hiflex

Core business offering: hydraulic and industrial hoses and fittings.

Aqua Power
688 Plane Road, Spartan
Tel: +27 11 970 4020
david@aquapower.co.za
www.aquapower.co.za

Sole Distributor/Sole Agency: E.E. Myers
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Core business offering: fluid power components, industrial and mobile.

Atelier SA
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Tel: +27 11 453 4607, Cell: +27 82 907 6077
eugene@axiom.org.za
www.axiom.org.za


Axiom Hydraulics
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www.axiom.org.za

Sole Distributor/Sole Agency: Ausco; Fairfield Manufacturing; Guardian Industries; SAM Hydraulik; Sampo Hydraulics; Sun Hydraulics
Shared Agency: ASA Hydraulik; Eaton Hydraulics

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Core business offering: hydraulic equipment, repair and installation. Pneumatic automation components.

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www.atollsystems.co.za


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System Integrator/Installer: Danfoss; Vacon

Core business offering: manufacturer, distributor, and service provider of the highest quality engineering consumables and components; including bearings and seals, power transmission components, drives, motors and controllers, hydraulics, pneumatics and filtration, heavy and light duty materials handling, valves and lubrication and fasteners, gaskets, and tools.

ISO Certification: ISO 9001: 2015, 14001, 45001

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30 Rabie Street, Fontainebleau, Randburg
Tel: +27 11 792 4588, Cell: +27 83 377 5545
john@flowmeters.co.za
www.flowmeters.co.za

Sole Distributor/Sole Agency: Macnaught; Tecluid; UFM

Core business offering: flowmeters and level indicators for the process and mining industries. Sizing, selection and application of flowmeters for various fluids and gases.

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cmshair@global.co.za
www.commercialshairing.co.za

Manufacturer: Commercial Shearing

Sole Distributor/Sole Agency: Commercial Shearing; Jeou Gang Hydraulic Industrial

Shared Agency: Hoff; Zhenjiang

Authorised Resellers/Dealer/Sub-Agency: Parker Dominik Hunter; Parker Gesen; Parker Hannifin; Parker Hannifin Denison; Parker Racor; Parker Sterling Hydraulic

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CT Fluid Power Training & Consultants
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Sole Distributor/Sole Agency: Airmate; Triple R

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Core business offering: hydraulic system design and manufacture, manifold blocks, cartridges, hydraulic filters.


CT Hydraulics (Nqoba)
Cnr Melville Road & Sharland Street, Driehoek, Germiston
Tel: +27 11 873 2342, Cell: +27 83 442 0398
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Sole Distributor/Sole Agency: Airmate; Ultrafine

Core business offering: all hydraulic componentry, supplier of ultrafine offline filtration units and systems.


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Sole Distributor/Sole Agency: Gear Pumps

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Dürr Africa
33 Roshan Road, Framesby, Port Elizabeth
Tel: +27 87 820 9000, Cell: +27 83 276 1644
durr@durr.com
www.durr.com

Sole Distributor/Sole Agency: Schenck RoTec

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Dymot Engineering
11 Derrick Road, Spartan, Kempton Park
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sales@dymot.co.za
www.dymot.co.za

Manufacturer: Dymot

Core business offering: winches and winching systems. Testing of winches, servicing of winches (on and off-site) as well as winch hire.

Eaton Hydraulics South Africa
Cnr Esander & Osborn Roads, Wadeville, Germiston
Tel: +27 11 961 2400
info@eaton.com
www.eaton.com

Manufacturer: Aeroquip; Airflex; Char-Lynn; Hansen & Gromelle; Hydrokraft; Hydrauline; Integrated Hydraulics; Intermore; Synflex; Ultrotronics; Vickers; Walterscheid; Winner

Core business offering: range of pumps, motors and valves for all industries and applications.

ISO Certification: ISO 9001, ISO 14000

Elonis
7 Mountain Ridge Road, New Germany
Tel: +27 31 702 6242, Cell: +27 83 631 2735
sales@elonis.co.za
www.elonis.co.za

Shared Agency: LS Electric; LSIS

Authorised Resellers/Dealer/Sub-Agency: IMO; Mecapion; Moxa; Power Electronics System Integrator/Installer: LSIS; Power Electronics

Core business offering: industrial automation and communication solutions, programmable logic controllers (PLC), human machine interface (HMI) and scada, servers and encoders, LV/MV variable speed drives (VSD) and soft starters. Ethernet switches, industrial wireless, cellular/radio, industrial gateways, media converters and serial device connectivity, embedded PCs, remote I/O, IP surveillance.

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ehs@mweb.co.za
www.ehsfluidpower.com

Authorised Resellers/Dealer/Sub-Agency: Alfragamma; Hydac; SMC

Core business offering: supply and repairs to all hydraulic, pneumatic, lubrication, grease and hose and fitting components, hydraulic training courses offered in basic and advanced hydraulics.

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Shared Agency: Roland Electronic

Core business offering: industrial instrumentation to measure moisture, as well as portable gauges for the motor industries (coating thickness, total thickness of pipes, etc) and panelbeaters. Double sheet detectors for industrial presses and weld seam detectors in the steel industry for pipe bending machines and weld quality inspection equipment.

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Sole Distributor/Sole Agency: Codeit; EMC; Servitrion; Watson Systems

Shared Agency: Foxboro; Oldham

Authorised Resellers/Dealer/Sub-Agency: Eurotron; Honeywell; Krohne; Union Instruments; Weber

Core business offering: instrumentation control, analytical equipment and calibration of flowmeters.

Flexible Electronic Systems
60 Director Road, Spartan Ext. 24
Tel: +27 11 974 7744, Cell: +27 82 553 0250
info@flexelecc.co.za
www.flexelecc.co.za

Core business offering: PLCs, motion controls, inverter drives, DC drives, AC servo drives, CNCS, robot controls, electrical switchgear, cabling, measuring equipment.

Fluid Power Group
26 Central Avenue, Eastleigh, Edenvale
Tel: +27 11 452 8795, Cell: +27 83 250 8713
fpower@africa.com
www.fluidpower.co.za

Manufacturer: Polylime SGV

Sole Distributor/Sole Agency: Bifold; Huade Beijing Hydraulics; Kracht; Tiefenbach; UFI Filters; Zf-Hy

Shared Agency: Atos

Authorised Resellers/Dealer/Sub-Agency: Hercules Sealing Products; Weptec System Integrator/Installer: Atos; Kracht; UFI Filters

Core business offering: hydraulic components and a complete range of valves, pumps, motors and seals, including the A10V range of piston pumps.


Fluid Power Group
26 Central Avenue, Eastleigh, Edenvale
Tel: +27 11 452 8795, Cell: +27 83 250 8713
fpower@africa.com
www.fluidpower.co.za

Manufacturer: Polylime SGV

Sole Distributor/Sole Agency: Bifold; Huade Beijing Hydraulics; Kracht; Tiefenbach; UFI Filters; Zf-Hy

Shared Agency: Atos

Authorised Resellers/Dealer/Sub-Agency: Hercules Sealing Products; Weptec System Integrator/Installer: Atos; Kracht; UFI Filters

Core business offering: hydraulic components and a complete range of valves, pumps, motors and seals, including the A10V range of piston pumps.


Hansa-Flex (SA)
39 Steel Road, Spartan, Kempton Park
Tel: +27 11 394 2966, Cell: +27 83 408 4868
rgelderblom@hansa-flex.com | www.hansa-flex.co.za

Core business offering: a full range of integrated services from planning and consulting through engineering, unit engineering, the supply of fastening elements and assembly to commissioning and training of operators.


Hartman Industrial Equipment
11 Moses Kotane, Bethal
Tel: +27 17 647 1901, Cell: +27 84 513 6587
eugene@hartind.co.za | www.hartmansindustrial.co.za

Sole Distributor/Sole Agency: Netter Vibration

Authorised Resellers/Dealer/Sub-Agency: ATI Systems; Festo; Gernue; Kuehrme; Omal; Ultimate Filter Options

Core business offering: various products that improve reliability of machinery; process automation and productivity products, special and custom designed brackets, couplings. Installation of enclosure systems, valves, pneumatic systems, automation industrial systems, instrumentation and control.


Hencor Hydraulics
9 Elm Street, Arbor Park, Newcastle
Tel: +27 34 312 3202, Cell: +27 82 449 8201
sales@hencorhydraulics.co.za

Core business offering: all hydraulic, pneumatic, tools and lubrication.

Hirsch Hydraulic Services
Unit 15, South Cape Industrial Park, Leo Road, Diep River
Tel: +27 21 706 7573, Cell: +27 82 728 7796
sales@hirschhydraulics.co.za
www.hirschhydraulics.co.za

Core business offering: hydraulic components and a complete range of valves, pumps, motors and seals, including the A10V range of piston pumps.

Hydrapower
20 Patterson Street, Newcastle
Tel: +27 34 312 5417, Cell: +27 60 548 9949
philylees@absamail.co.za

Core business offering: hydraulic and pneumatic products and services. Various types of pumps, valves, power packs, hose assemblies, cylinders, and mining equipment.

Hydrasales
96A Fleming Road, Meadowdale Ext II, Germiston
Tel: +27 11 392 3736
harpo@hydrasale.co.za
www.hydrasale.co.za

Sole Distributor/Sole Agency: Badger; Badger Flotech; Badger Hedland; CS Elements; Eurowitch; Faster; FHP; FMP; Hedland; HP Elements; Hyd; Hydrasales; ICM Controls; LMP; LP; MP Filters

Shared Agency: Hyd-R; Mintor; Nuova Fima

Authorised Resellers/Dealer/Sub-Agency: MFP

Core business offering: hydraulic filters, filter elements, air breathers, level gauges, level floats, sight glasses, ball-type quick release coupling, pin-type QRC, flat-face QRC, in-line check valves, in-line flowmeters, flowmeter test kits, oil filling plugs, oil coolers, flotech, drive couplings, bell housings, pressure gauges, pressure switches, contamination monitoring, oval gear meters, tube filtration.

ISO Certification: International Supplier Certification

Hydra-Spes
13 Harnas Street, Stormill Ext 5, Roodepoort
Tel: +27 83 377 2664
sales@hydrasp.co.za

Authorised Resellers/Dealer/Sub-Agency: Aidro; Comatrol; Danfoss; Hydr-App; Reggiana Riddutori; Scanrec; Turolla (gear pumps & motors); VPS

Core business offering: hydraulic components and design, installation and commissioning of complete systems.

Hydraulic & Automation Warehouse
28 Spartan Road, Spartan Ext 21, Kempton Park
Tel: +27 82 881 1890
werner.joubert@boschrexroth.co.za
www.boschrexroth.africa

Sole Distributor/Sole Agency: KTR - Kupplungstechnik; Walterscheid

Shared Agency: Char-Lynn; PH Hydraulik

Authorised Resellers/Dealer/Sub-Agency: GMS; Intertraco; Luen;

Hydramatics Control Equipment
15 Village Crescent, Limbro Business Park, Sandton
Tel: +27 11 608 1340
sales@hydramatics.co.za
www.hydramatics.co.za

Sole Distributor/Sole Agency: Camozzi Automation; Camozzi Pneumatics; Farba; Hy-Lok; Pneumatic (RGS)

Authorised Resellers/Dealer/Sub-Agency: Aignep; CDC Fluidfit; CDC Pneumatics; Crane BSV; HYSCO; SFERA; SHPI; Wade Fittings

Core business offering: industrial automation products and solutions - pneumatic, electric and hydraulic components sourced from leading international manufacturers.Wide range of fittings, tubing, valves and other electro-pneumatic products.

Hydraulic & Pneumatic Hub
19 Derrick Coetzee Street, Jet Park, Johannesburg
Tel: +27 11 613 6560/1133
info@hphub.co.za
hphub.co.za

Sole Distributor/Sole Agency: Kaufmann

Authorised Resellers/Dealer/Sub-Agency: Blago; Buschjost; Curtis Wright; Galtech; Herion; Mintor; Norgren; OMM; Semperit; Setco; Sprague; Yoken

Core business offering: leading brands in the fluid power industry. The company has an extensive stock of premium and cost effective components in both pneumatic and hydraulic disciplines.
Hydraulic Training & Consultants
23 Korhaan Avenue, Benoni
Tel: +27 11 421 6696, Cell: +27 74 182 0756
hytrain@iburst.co.za
www.hytrain.co.za

Core business offering: the company provides basic to intermediate and advanced hydraulic training courses. The company caters for a wide range of delegates, from the practical man-to-the professional engineer, and also newcomers to the field. The experience of the company’s lecturing staff covers the spectrum of hydraulic engineering applications.

Hydro Concepts & Drive Technologies
11 Baksteen Road, Clayville Ext. 11, Olifantsfontein
Tel: +27 11 316 8518
info@hcdt.co.za
www.hcdt.co.za

Sole Distributor/Sole Agency: Poclain Hydraulics
Authorised Resellers/Dealer/Sub-Agency: Brevini; Montabert; Parker Hannifin

Core business offering: repair centre for hydraulics and spare parts.

Hydrocylinder Engineering (HCE)
88 Dam Road, Anderbolt, Boksburg
Tel: +27 11 392 5917/8, Cell: +27 82 413 6363
mechelle@hydrocylinder.co.za
www.hydrocylinderengineering.co.za

Sole Distributor/Sole Agency: ACO; Macpower; Maxtor; Ponor Wadowsky
Authorised Resellers/Dealer/Sub-Agency: Interpump

Core business offering: power packs, cylinders, cylinder components, manifold blocks, small machines, hydraulic components, specialised components, installations, engineering consulting, draughting and master classes (systems specific for artisans and engineers).

Hydromobile S.A.
41 Steel Road, Spartan, Kempton Park
Tel: +27 11 394 5837, Cell: 0861 HYDRAULICS
sales@hydromobile.co.za
www.hydromobile.co.za

Sole Distributor/Sole Agency: Akion; Dinoil; Euro Fluid; FBN; Filipro; Hydr-App; Hyster; MTC; Oleodinamica; Vivalid
Authorised Resellers/Dealer/Sub-Agency: Aror; Askari; Flucom Cartridges; Hydrocontrol; Mintor; SAP

Core business offering: a wide range of hydraulic products to complement any industry, ranging from hand control valves, pumps, solenoid valves, filters and accessories, hydraulic motors and steering units, as well as proportional valves, hydraulic systems and electric motors.

Hydroscand
104 North Reef Road, Sunnynook, Germiston
Tel: +27 11 450 2030, Cell: +27 82 374 9176
info@hydroscand.co.za
www.hydroscand.co.za

Manufacturer: Hydroscand
Core business offering: hydraulic and industrial hoses and fittings and associated hydraulic components and products.

Hyfit Expertec
19 Maxwell Street, Ophirton, Johannesburg
Tel: +27 11 493 5741, Cell: +27 82 459 5379
hyfit@mweb.co.za
www.hyfit.co.za

Core business offering: hydraulic hoses and fittings; pneumatic equipment; airbrake valves; hydraulic valves and powerpacks; workshop supplies.

Hyfit Engineering
8 Foreman Road, Spartan Ext. 3, Kempton Park
Tel: +27 11 387 1900, Tollfree: 0860 HYENG
andre.lindeque@boschrexroth.co.za
www.boschrexroth.africa

Sole Distributor/Sole Agency: Bosch Rexroth; Rexroth
Authorised Resellers/Dealer/Sub-Agency: Bosch Rexroth; Rexroth

Core business offering: hydraulic cylinders and related products.

Hytec Fluid Technology
30 Spartan Road, Spartan Ext. 21, Kempton Park
Tel: +27 11 976 7300
sandar.bottyan@boschrexroth.co.za
www.boschrexroth.africa

Sole Distributor/Sole Agency: Buehler; Nordhydraulik; Rexroth; Sesino
Shared Agency: ASA Hydraulik
Authorised Resellers/Dealer/Sub-Agency: Baldwin; Fleetguard; Flexim; Hydac; Hy-Pro; Olea; Settima Meccanica; Stauff
System Integrator/Installer: Flexim; Nordhydraulik; Settima Meccanica

Core business offering: accumulators, pulsation dampers, silencers, shock absorbers, filtration to 1000 bar; Betterfit elements, process filtration, self cleaning/backflushing filters, oil cleaning/liquid service, oil analysis lab/online, refractometers, ultrasonic clamp-on flowmeters, compact hydraulics, cartridge valves, cooling systems, screw pumps, mobile valves lever/remote, bell-housings, electronic measurement/sensing, mobile filtration.

Hytec South Africa
3 Riverfields Boulevard, Witfontein Ext. 56, Kempton Park
Tel: +27 11 975 9700
info@hytec.co.za
www.boschrexroth.africa

Sole Distributor/Sole Agency: Bosch Rexroth; Brueninghaus Hydromatik; Hydromatik; Indramat; Italgroup; Lohmann + Stolterfoht; Mecman; Rexroth; Rexroth Bosch; Rexroth Indramat; Rexroth Mecman; Rexroth Star; Star
Shared Agency: Char-Lynn; Eaton Char-Lynn
Authorised Resellers/Dealer/Sub-Agency: Aventics; Bowers; Doebel-Ehram; Hagglund; Hydac; Intertraco; KTR - Kupplungstechnik; Power Team; Rexroth; Roquet; Rotex; Salami; SPX Balting Systems; SPX Globe; SPX Power Team; SPX Stone; Walterscheid

Core business offering: complete range of hydraulic, pneumatic and automation components.

Hydromatik
15 Magnolia Crescent, Valmary Park, Durbanville
Tel: +27 21 975 5105, Cell: +27 83 442 6881
contact@jtrs.co.za
www.jtrs.co.za

Authorised Resellers/Dealer/Sub-Agency: Interpump

Core business offering: cylinders, cylinder components, manifold blocks, small machines, hydraulic components, specialised components, installations, engineering consulting, draughting and master classes (systems specific for artisans and engineers).

Jag Hydraulics
24 Impangalea Street, Sebenza
Tel: +27 11 393 3356
greg@jaghydraulics.co.za
www.jaghydraulics.co.za

Core business offering: hydraulic components at competitive prices. Service exchange units on all earthmoving related hydraulics, including pumps and cylinders. A vast array of service exchange hydraulic components for the hydraulic environment.

JTR Technologies
15 Magnolia Crescent, Valmary Park, Durbanville
Tel: +27 21 975 5105, Tollfree: 0860 HYENG
contact@jtrs.co.za
www.jtrs.co.za

Sole Distributor/Sole Agency: Multi Contact; Staubli
Core business offering: connectors and robotics equipment.
Kappa Engineering
Cnr Keswick Road & Stanley Street, Knights, Germiston
Tel: +27 11 828 5506
gerrie@kappaeng.co.za
www.kappaeng.co.za

**Core business offering:** Hydraulic cylinders, tie rod cylinders, 3 and 4 stage cylinders.

**ISO Certification:** ISO 9001:2008

Kenja Group
Unit 12, Lakeview Business Park, Next to Shell Garage, 9 Yaldwyn Road
Tel: +27 11 597 0020
vicky@kenja.co.za
www.kenja.co.za

**Sole Distributor/Sole Agency:** David Brown; Hydreco; Roloid

**Shared Agency:** Radicon

**Authorised Resellers/Dealer/Sub-Agency:** Metaris

**Core business offering:** Service, repair, manufacture, design and resale of any hydraulic product or equipment.

**ISO Certification:** ISO 9001

Lindos Hydraulics
15 Innes Road, Abbeydale Park, Jet Park
Tel: +27 11 826 3631
johan@lindos.co.za
www.lindoshydraulics.co.za

**Sole Distributor/Sole Agency:** Linde

**Authorised Resellers/Dealer/Sub-Agency:** Aber; Bucher; Eaton; Hydro Technick; Krupp; Ö&K Gruppo Camara; PPT; Ronzio; Safm; Stromag; ZTS Sabinov

**Core business offering:** A large range of hydraulic components and gearboxes, design and manufacture of hydrostatic systems, design and manufacture of industrial power systems; comprehensive repairs to pumps and motors; assistance with onsite fault and failure analysis.

**ISO Certification:** Yes

Magnet Service Binder
270 Samantha Street, Strijdom Park, Randburg
Tel: +27 11 791 3460
info@magnet.co.za
www.binder.co.za

**Sole Distributor/Sole Agency:** Binder; EMG; Kendrion; SBBRE; Wistro

**Core business offering:** Electromagnetic components, such as clutches, brakes, drum brakes, disc brakes, permanent and electromagnets as well as AC/DC solenoids. The products serve light and heavy industries, including printing, bottling and tooling machines, robotics, conveyor systems, controlled industrial drives and emergency stops.

Marilyn Instrumentation
2 Carel Lotter Street, Nuffield, Springs
Tel: +27 11 363 3408, Cell: +27 82 648 7561
antonym@marinst.co.za
www.marinst.co.za

**Authorised Resellers/Dealer/Sub-Agency:** ABB; Amr; Asco/Joucomatic; Ashcroft; Bellofram; Delta Ohm; Dynapar; Eletta; Elomatic; Fairchild Transducers; Fisher Porter; Gemu; Hanna; HBC; Honberg; IQ Instruments; Isaloha; Legris; Line Seiki; Majortech; Melco Gauges; Mobrey; Omron; Pneumatic Components; Rhomberg; Swagelok Fittings; Toho; Vender-Roat; WIKA Instruments

**Core business offering:** A wide range of process control and pneumatic equipment.

Measuring Instruments Technology (MIT)
CSIR Campus, Building 33, Meiring Naude Road, Lynnwood, Pretoria
Tel: +27 12 349 5191, Cell: +27 82 784 2011
info@marmit.co.za
www.marmit.co.za

**Manufacturer:** Goldilux

**Sole Distributor/Sole Agency:** Andor; CI Systems; Cordin; Eksma; Labsphere; OptoSigma; Photolabsearch

**Shared Agency:** Exar; Reliance Precision

**Core business offering:** Motion control and opto-mechanical components, positioners, top end systems and solutions for applications in R&D in fields ranging from mining to medicine, as well as commercial and industrial, aerospace and defense, light measuring instruments, optics, electro-optics, detectors.

Mecosa
76 Fifth Avenue, Fontainebleau
Tel: +27 11 257 6100
measure@mecosa.co.za
www.mecosa.co.za

**Sole Distributor/Sole Agency:** Advanced Energy; Aip; Andros; Berthold Technologies; Bopp & Reuther Messtechnik; Brankorst Cori-Tech; Brankorst High-Tech; Dr E Horn; Fernsteuergeraete Kurt Delsch; Foundrimeters Instrumentation; Georadis; Hamilton Bonaduz; Heinrichs Messtechnik; Hydrocontrol; Impec Electronic; Innova (gas monitors); Inor Process AB; Knick Electronic Messgeraete; Kral; LumaSense Technologies; Luxtron; M&W Instruments; Mass-Flow Online; Micron Infrared; Muetec Instruments; Optek-Donulat; Pinter Mess- und Regeltechnik; Process Sensors; Radiation Solutions; Redwave; Rheintacho

**Shared Agency:** Els Pizen; Fafrin; Kobold Messing

**Core business offering:** Process instrumentation for most industries.

Monster Hydraulics & Engineering
9 Dartfield Road, Jet Park, Boksburg
Tel: +27 11 397 7780, Cell: +27 72 679 9856
roelof@monsterhydraulics@gmail.com

**Core business offering:** Pumps, valves, motors, fittings, filters, coolers, grab cylinders, limit switches, filtration machines and hydraulic gearboxes.

MOOG
Unit 6, VSP Complex, 501 Theuns Street, Hennopspark Ext. 22, Centurion
Tel: +27 12 653 6768, Cell: +27 82 339 0510
info.southafrica@moog.com
www.moog.com

**Manufacturer:** MOOG

**Core business offering:** Servo and proportional valves, radial piston pumps, cartridge valves, analog and digital motion controllers, brushless motors and drives, electrical slippings, fluid rotary units, fibre optic rotary joints and multiplexers, pan and tilt mounts, resolvers and synchros, hydraulic power units and manifold systems, electric actuators, motion simulators, test systems and controllers.

Oilpower
45 Henwood Road, New Germany, Durban
Tel: +27 31 705 9871, Cell: +27 82 784 2933
oilpower@3i.co.za
www.oilpower.co.za

**Manufacturer:** Goldilux

**Sole Distributor/Sole Agency:** Andor; CI Systems; Cordin; Eksma; Labsphere; OptoSigma; Photolabsearch

**Shared Agency:** Exar; Reliance Precision

**Core business offering:** Motion control and opto-mechanical components, positioners, top end systems and solutions for applications in R&D in fields ranging from mining to medicine, as well as commercial and industrial, aerospace and defense, light measuring instruments, optics, electro-optics, detectors.

**Core business offering:** Process instrumentation for most industries.

**Core business offering:** Pumps, valves, motors, fittings, filters, coolers, grab cylinders, limit switches, filtration machines and hydraulic gearboxes.
Core business offering: hydraulic and pneumatic equipment and accessories.

Optima Hydraulics
Optima Business Park, Kempenfelt Road, Paarden Eiland, Cape Town
Tel: +27 21 508 7200
info@optima.co.za
www.optima.co.za

Core business offering: turnkey projects, hydraulics, pneumatics and control systems. Services are divided into laboratory; design office; planning; quality control (ISO 9001:2008); machine shop; hydraulic workshop (system engineering); structural steelwork; and hydraulic repair workshop (testing capability 300 kW).


Opto Controls
Shield House, Hawkaven Avenue, Bromhof, Randburg
Tel: +27 11 792 3560, Cell: +27 82 958 1700
mike@opto.co.za
www.opto.co.za

Core business offering: an edge programmable automation controller with an integrated high-resolution touch screen, browser-based HMI builder and visualisation utility. This IoT-ready system allows you to collect, process, view and share data among databases, cloud services, PLCs etc.


Parker Hannifin - Sales Company South Africa
10 Berme Avenue, Aeropark, Kempton Park
Tel: +27 11 961 0700
parker.southafrica@parker.com
www.parker.com/za

Core business offering: Airtek; A-Lok; Apitech; Atlas; Autoclave; Balston; Bell-Hermatic; Cabett Subsea; Calzoni; Chelsea; Chomerics; Clima; Coalmaster; Colorflow; Comp-air; Compumotor; CPC; CTC; Daedal; Dayco; Denison Gold Cup; Domnick Hunter; Ermeto; EWA; eXtreme Duty Hose; Fairey Arlon; Farr Filtration; Fast & Tite; Fast-Star Dura-Flex; FBC Electronics; Ferulok; Fine Finish; Fine Filters; Folding; Greer; Gresen; Hargraves; Hiross; Hydroguide; Intru-Lok; IPS; ITR; Jet-Pipe; Jinyoung; Kuroda Pneumatics; Lucifer; Parker; Patriot; Parflex; Parflex Tube; Pneumatics; Polyflex; Porter; Prodexi; Presto; Prestolok; Push-Lok; Racor; Rayco; Rectus; Remco; Reploc; Rottelman; Schm; SCR; Sealed-Lok; SensoControl; Shredor; Bellows; Sinclair Collins; Skinner; Snap-Tite; SS2; Steckos; T-Squared; Tiajo; Telepneumatics; Texloc; Towler Hydraulics; Triple-Lok; True Seal; TRV; Tyronne; UCC; Viscoseal; Vanucci; Electronic Controls; Venti; Vooz; Voza; Waterman; Watts; Pneumatics; Willkens; Zander; Zentix.


Parker Store Cape Town
55 Neptune Street, Paarden Eiland
Tel: +27 21 511 9146
quinton@hydron.co.za
55 Neptune Street, Paarden Eiland
ParkerStore Cape Town

Core business offering: hydraulic and pneumatic components and services to both the mobile and industrial sectors, also specialising in turnkey projects.

ISO Certification: LS 5193

ParkerStore Durban
93 Myrtle Road, Pinetown, Durban
Tel: +27 31 001 0246, Cell: +27 71 888 9632
tyronne@flupa.co.za
93 Myrtle Road, Pinetown, Durban
ParkerStore Boksburg

Core business offering: hydraulic and pneumatic equipment.

ParkerStore Boksburg
Unit 9, Turf Industrial Park, 56 Turf Road, Anderbolt, Boksburg
Tel: +27 11 892 0062, Cell: +27 82 810 2709
jolanda@parkersw.co.za
10 Berne Avenue, Aeroport, Kempton Park
ParkerStore Boksburg

Core business offering: hydraulic and pneumatic hose, connectors and other accessories; EO, N2 plant, instrumentation and filtration solutions; engine protection products.

ParkerStore Limpopo
10 Mafanedza Street, Polokwane
Tel: +27 15 298 8512, Cell: +27 76 177 5260
brian@parkerstorelimpopo.co.za
10 Mafanedza Street, Polokwane
ParkerStore Limpopo

Authorised Resellers/Dealer/Sub-Agency: A-Lok (tube fittings); Calzoni; Coalmaster; Commercial Intertech; Denison; Denison Gold Cup; Ermeto; Fairey Arlon; Gresen; Legris; Lucifer; Parker Gresen; Parker Hannifin; Parker Transair; Polyflex; Prestolok; Push-Lok (hose & fittings); Racor; SensoControl; Skinner; Tyronne; Voac.

Core business offering: fuel filtration, hydraulic pumps and motors. Filtration (HP filtration, tank-top, spin-on), pneumatics, seals, instrumentation, hose (mining, industrial/push-lk hose), hose-cramping machines, connectors and fittings, engine protection units, hydraulic valves (solenoid, cartridge, sandwich), accessories and gauges.

ParkerStore Krugersdorp
Unit 5, Silverfields Shopping Centre, 2 Deal Road, Silverfields, Krugersdorp
Tel: +27 11 664 6235, Cell: +27 84 209 1120
sales@parkers kr.co.za
www.parkerstorekrugersdorp.co.za

Authorised Resellers/Dealer/Sub-Agency: A-Lok (tube fittings); Calzoni; Coalmaster; Commercial Intertech; Comprit Tube Clean; Denison; Denison Gold Cup; Ermeto; Fairey Arlon; Gresen; Legris; Lucifer; Parker Gresen; Parker Hannifin; Parker Transair; Polyflex; Prestolok; Push-Lok (hose & fittings); Racor; SensoControl; Skinner; Tyronne; Voac.

Core business offering: hydraulic pumps and motors. Filtration (HP filtration, tank-top, spin-on), pneumatics, seals, instrumentation, hose (mining, industrial hose), hose-cramping machines, connectors and fittings, engine protection units, hydraulic valves (solenoid, cartridge, sandwich), accessories and gauges, fuel filtration.

ParkerStore Limpopo
10 Mafanedza Street, Polokwane
Tel: +27 15 298 8512, Cell: +27 76 177 5260
brian@parkerstorelimpopo.co.za
www.parkerstorelimpopo.co.za

Authorised Resellers/Dealer/Sub-Agency: A-Lok; Denison; Donnick Hunter; Ermeto; Hiros; KarryRimp; Legris; Parker; Parker Donnick Hunter; Parker EME; Parker Gresen; Parker Hannifin; Parker Interctech; Parker Sterng Hydraulic; Parker Transair; Parkrmp; Phistite; Prestolok; Push-Lok; Racor; Sentinel

Manufacturer: Parker Hannifin
DIRECTORY OF VENDORS

Core business offering: hoses, quick couplers, fittings, tube fittings; fuel filtrations and engine protection; seals; pneumatic, hydraulic and O-rings; instrumentation fittings, valves and manifolds, hydraulic and process filtration; pneumatic valves, cylinders, filters and regulators; hydraulic pumps, valves and motors, fluid connectors and hoses.

ParkerStore Pietermaritzburg
46 Victoria Road, Pietermaritzburg
Tel: +27 33 342 7731
info@parkerstorepi.co.za

Authorised Resellers/Dealer/Sub-Agency: Parker Hannifin
System Integrator/Installer: Parker Hannifin

Core business offering: sale and manufacture of pneumatic cylinders and hose assemblies. Installation of hydraulic and pneumatic components in industrial and mobile markets, and system integration of industrial and mobile fluid components.

ISO Certification: Yes

ParkerStore Pretoria
Unit 012/012A, Calliandra Place, cnr Calliandra & Taalfontein Streets, Montana Park
Tel: +27 12 548 9002/9190, Cell: +27 71 673 4195
sales@pstorepretoria.co.za
www.pstorepretoria.co.za

Authorised Resellers/Dealer/Sub-Agency: A-Lok (instrumentation); Denison; Domnick Hunter; Ermeta; Hiros; Kory-Krimp (crimpers); Legris; Parker (servo drives); Parker Dornik Hunter; Parker EME; Parker Gesen; Parker Hannifin; Parker Intertech; Parker Raco; Parker Sterling Hydraulic; Parker Transair; Parkrimp (crimpers); Phastile; Prestok; Push-Lok (hose & fittings); Racor

Core business offering: hydraulic and electro-mechanical services.

ParkerStore Richards Bay
4 Betastraal, Alton North, Richards Bay
Tel: +27 35 751 1749, Cell: +27 83 320 6856
sales@flupa.co.za

Authorised Resellers/Dealer/Sub-Agency: Parker Gesen; Parker Hannifin; Parker Hannifin Chelsea Products; Parker Hiros; Parker Lucifer; Parker Oliver; Parker Raco; Parker Ross; Parker Schrader Bellows; Parker Sterling; Parker Sterling Hydraulic; Parker Transair; Samoa

System Integrator/Installer: Parker Gesen; Parker Hannifin; Parker Hannifin Chelsea Products; Parker Hiros; Parker Lucifer; Parker Oliver; Parker Raco; Parker Ross; Parker Schrader Bellows; Parker Sterling; Parker Sterling Hydraulic; Samoa

Core business offering: hydraulic and pneumatic components and services to both the mobile and industrial sectors, also specialising in turnkey projects.

ISO Certification: LS 5193

ParkerStore Rustenburg
Unit L, Delta Place, Mabe Business Park, 17 Kgwebo Avenue, Mabe Business Park, Rustenburg
Tel: +27 14 592 5666/574, Cell: +27 82 767 5052
sales@psrustenburg.co.za

Authorised Resellers/Dealer/Sub-Agency: Denison; Domnick Hunter; Hiros; Parker (SDD drives); Parker (servo drives); Parker EME; Parker Gesen; Parker Hannifin; Parker Hannifin Chelsea Products; Parker Hiros; Parker Lucifer; Parker Oliver; Parker Raco; Parker Ross; Parker Schrader Bellows; Parkrimp (crimpers); Push-Lok (hose & fittings); Racor

System Integrator/Installer: Parker Gesen; Parker Hannifin; Parker Hannifin Chelsea Products; Parker Hiros; Parker Lucifer; Parker Oliver; Parker Raco; Parker Ross; Parker Schrader Bellows; Parker Sterling; Parker Sterling Hydraulic; Samoa

Core business offering: a large variety of hydraulic and pneumatic equipment and products in numerous industries such as mining, automation, machinery and agriculture.

ParkerStore Springfield
714 Chris Hani Road
Tel: +27 31 940 1696
info@parkerstoredbn.co.za

Authorised Resellers/Dealer/Sub-Agency: Parker Hannifin
System Integrator/Installer: Parker Hannifin

Core business offering: sale and manufacture of pneumatic cylinders and hose assemblies. Installation of hydraulic and pneumatic components in industrial and mobile markets, and system integration of industrial and mobile fluid components.

Parkerstore Springs
43 4th Avenue, Geubul, Springs
Tel: +27 11 811 0265, Cell: +27 82 938 9167
sheldon@parkerstoresprings.co.za

Authorised Resellers/Dealer/Sub-Agency: Parker Hannifin

Core business offering: filtration products.

ParkerStore Vaal
9 Smuts Avenue, Vereeniging
Tel: +27 16 455 1708, Cell: +27 83 449 0162
charl@vaalfluids.co.za
www.parkersorevaal.co.za

Authorised Resellers/Dealer/Sub-Agency: A-Lok (instrumentation); Denison; Domnick Hunter; Hiros; Parker (SDD drives); Parker (servo drives); Parker EME; Parker Gesen; Parker Hannifin; Parker Hannifin Chelsea Products; Parker Hiros; Parker Lucifer; Parker Oliver; Parker Raco; Parker Ross; Parker Schrader Bellows; Parker Sterling; Parker Sterling Hydraulic; Push-Lok (hose & fittings); Racor

Core business offering: hydraulic, pneumatics, instrumentation and filtration products.

PE Hydraulics & Pneumatics
46 Sidwell Avenue, Sidwell, Port Elizabeth
Tel: +27 41 451 0840, Cell: +27 82 577 1811
rakesh@pehydraulics.co.za
www.pehydraulics.co.za

Sole Distributor/Sub Agency: Tombo

Authorised Resellers/Dealer/Sub-Agency: Lann Manufacturing; XCPC

Core business offering: hydraulics, pneumatics, industrial nozzles, automotive pipes and fittings.

Pirtek Africa
Waterfall Distribution Campus, off Bridal Veil Street, Midrand, Gauteng
Tel: +27 11 608 2299, Tollfree: 0861 747 835
info@pirtek.co.za
www.pirtek.co.za

Manufacturer: Pirtek
System Integrator/Installer: Pirtek

Core business offering: hydraulic hose, fittings and adaptors. Specialists in mobile hydraulics hose services i.e. on-site hose replacement. Mining-based hydraulic hose workshops. Service-based supplier of hydraulic hose and fittings.


Pneumatic Electric Control Systems
8 Ballance Road, Stamford Hill, Durban
Tel: +27 31 303 3701, Cell: +27 82 453 4510
pecs@mweb.co.za
www.pecspower.co.za

Sole Distributor/Sub Agency: Coremto; Deublin; Edco; Goizper; GUMMI; Riek; Mac; Matrix Engineering; Neuenhauser-Vorwald; OLAB; PHD; Tol-o-matic; WPT
Core business offering: industrial and mining clutches, brakes, rotating unions, AC motor/servo speed controllers, solenoid air valves, vacuum components and rodless cylinders. These are serviced nationwide in Durban, Johannesburg, Cape Town and Port Elizabeth.

Poly-Test Instruments
Unit 16 Machine Park, 38 Francis Road, Anderbolt, Boksburg
Tel: +27 11 918 7450, Cell: +27 71 895 8757
nelma@poly-test.co.za
www.poly-test.co.za

Core business offering: instrumentation for quality control laboratories and other production/educational applications.

Progressive Distributing Enterprises
18 Hettie Street, Cyrildene
Tel: +27 11 615 9786
pde@pde.co.za
www.pde.co.za

Core business offering: quality electronic components. All types of integrated circuits, sensors, transducers, potentiometers and passive components.

Rand Building Hydraulics
58 Steel Road, Spartan, Kempton Park
Tel: +27 11 394 3477
sales@rbh.co.za
www.rbh.co.za

Core business offering: adaptors, fittings, hose assemblies, quick couplers, solenoid and hand-operated directional control valves, high pressure ball valves, in-line flow control valves, cartridges, gear pumps, couplings, bellhousings, vane pumps, pressure compensated piston pumps, hydraulic motors, test equipment, seamless hydraulic tubing, compression fittings, pipe clamps, cylinder kits, honed tubing, chromed rods.


RS Components SA
20 Indianapolis Street, Kyalami Business Park, Kyalami, Midrand
Tel: +27 11 691 9300
sales.za@rs-components.com
www.rs-online.co.za

Core business offering: industrial, maintenance and electronics products, with a selection of over 500 000 products across 2500 global brands.
Tectra Automation
3 Riverfields Boulevard, Witfontein Ext. 56, Kempton Park
Tel: +27 11 971 9400
sales@tectra.co.za
www.boschrexroth.africa

Sole Distributor/Sole Agency: Cypag; Indramat; Mecman; Rexroth; Rexroth Bosch; Rexroth Indramat; Rexroth Star; Star
Authorised Resellers/Dealer/Sub-Agency: Accuride; Airwork; Aventics; Omal; Reu; Schmida; VSD
Core business offering: pneumatics for industrial automation, vacuum technology, linear bearings, ball screws, ball rail, aluminium profile frames, workpiece transfer systems, conveyors and protective fencing, robotic systems, electric actuators, AC servo drives, PLCs, CNC controls.

Tenneco Ride Control SA t/a DRiV
Meadowview Business Estate, 7 Meadowview Lane, Linbro Park, Johannesburg
Tel: +27 11 630 3000
plutz@driv.com

Manufacturer: Monroe; Rancho
Core business offering: gas lifts, protection kits, mounting kits.
ISO Certification: TS16949

The Hydraulic Centre
1227 Leader Avenue, Robertville, Roodepoort
Tel: +27 11 474 9651, Cell: +27 83 499 0638
info@thc.co.za
www.thc.co.za

Sole Distributor/Sole Agency: Blago; D Hydro; Dynamische Hydraulics; EcoFlex; Safelast; Semperit; Tieffe
Shared Agency: DINP; Galtech
Core business offering: hydraulic hose, hydraulic fittings, stainless steel hose, teflon, thermoplastic and multipurpose hose, quick release couplings, adaptors, brass fittings, steel tubing and tube fittings, hydraulic pumps, valves and components. Hydraulic crimping machines.

Transducer Technology
54 Eleventh Avenue, Northmead, Benoni
Tel: +27 11 425 2094, Cell: +27 82 896 6511
sales@transducers.co.za
www.transducers.co.za

Sole Distributor/Sole Agency: Gems; Gems (sensors); iTarget; Precision Digital; RDP Electronics; RDP Group; Setra Systems
Core business offering: pressure sensors and switches, level and flow transmitters and switches. Digital indicators, linear displacement transducers (LVDTs), magnetostrictive displacement sensors, draw wire sensors, loadcells, signal conditioning equipment, temperature sensors.

TVH Parts South Africa
90 Electron Avenue, Isando, Kempton Park
Tel: +27 11 281 2700
liani.glinister@tvh.com
www.tvh.com/en-za

Authorised Resellers/Dealer/Sub-Agency: Balflex; Cast; Inteva; Sinnoflex; Sonnetaum; Vitillo
Core business offering: rigid hydraulic tube and flexible hydraulic hose, fittings and accessories.

Universal Suppliers & Expediters
Industrial City, Building S1, Voortrekker Road, Witbank
Tel: +27 13 636 1567/8
malcolm@usesa.co.za
www.usesa.co.za

Authorised Resellers/Dealer/Sub-Agency: Askari; Danfoss; Enerpac; Hydac; Hystar; SA; Sun Hydraulics; Vivolo
Core business offering: hydraulic equipment (all makes), valves, pumps, motors, power packs, accumulators, cylinders, hoses, fittings, electrical panels, radio receivers, PLC programming, turnkey projects. General engineering.

VA Instrumentation
67 Pemilton Avenue, Reservoir Hills, Durban
Tel: +27 31 262 3100, Cell: +27 82 937 3919
vaisales@vodamail.co.za
www.vainst.co.za

Sole Distributor/Sole Agency: Autrol; Der Sense Technology
Authorised Resellers/Dealer/Sub-Agency: Aplisens; Burker; Codel; COX; DATAPAC; F&P; Forbes Marshall; Foxboro; FP; Honsberg; IRCON; IRISS; MRU; Oliver IGD; Raytek; Sage; SWR Engineering; Wadeco
System Integrator/Installer: ABB; Aplisens; Autrol; Burker; Codel; F&P; Forbes Marshall; Foxboro; FP; Honsberg; MRU; Oliver IGD; Raytek
Core business offering: process automation and instrumentation, including motion sensing, pressure, level measurement using ultrasonic/radar/ hydrostatic methods, temperature transmitters and elements, controllers, flowmeters for gas and liquid flow, mass flow, density/Brix measurement, gas analysers and detectors, dust monitors, recorders, panel indicators/ integrators, valve positioners, power cylinders, I/P converters, P/I converters, pressure/temperature gauges, angular positioners, motors.

Vaal Fluid Systems SA
24 Smuts Avenue, Vereeniging
Tel: +27 16 455 1708
charl@vaalfloods.co.za
www.vaalfloods.com

Manufacturer: VFS
Sole Distributor/Sole Agency: VFS
Authorised Resellers/Dealer/Sub-Agency: A-Lok; A-Lok (instrumentation); Calzoni; Denison; Domnick Hunter; Ermeto; Hiross; Legris; Lucifer; Olmer; Parker (SDD drives); Parker (servo drives); Parker EME; Parker Gesen; Parker Hannifin; Parker Sterling Hydraulic; Parker Transair; Paskrip (crimpers); Pioneer; Push-Lok (hose & fittings); Racor; Ross; Schrader Bellows; Wilkerson
System Integrator/Installer: A-Lok; Calzoni; Denison; Domnick Hunter; Ermeto; Hiross; Legris; Lucifer; Olmer; Parker Hannifin; Pioneer; Racor; Ross; Schrader Bellows; VFS; Wilkerson
Core business offering: hydraulics, pneumatics, cylinders, powerpacks, filters, hose, hose fittings, hydraulic fittings, instrumentation fittings, instrumentation tubing, electric motors, hydraulic motors, pumps, stainless steel convoluted hose and braid, accumulators, hydraulic and pneumatic valves.

Verder Pumps SA
197 Flaming Rock Avenue, Northlands Business Park, Newmarket Road, Northington
Tel: +27 13 704 7500
info@verder.co.za
www.verder.co.za

Manufacturer: JEC; Packo; Verderair; Verderflex; Verderhus; Verdermag
Core business offering: pumping solutions, offering a wide range of durable industrial pumps, suitable for numerous applications across various industries.
## Power generation, storage, conversion & conditioning

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### Hydraulic Motors, drives & motor controllers

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Hennopspark X22  
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## Control systems & components

### Hydraulic

| Manufacturer                              | Manifolds | Drilled metal block | Modular | Rotary | Valves | Accumulator, charge, bleed | Cartridge | Check | Check valve | Directional control, manual | Directional control, manual pool operated | Directional control, solenoid direct | Directional control, solenoid pilot | Electrically operated | Flow control, Flow control valves | High pressure operated | Manually operated | Pilot | Pneumatically operated | Proportional | Sequence | Servo | Topping |
|-------------------------------------------|-----------|---------------------|---------|--------|--------|----------------------------|-----------|-------|-------------|--------------------------|-------------------------------|------------------|--------------------------|-------------------|----------------|--------|--------------|-----------|----------|-------|---------|
| AC Honed Group                            |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Aqua Power                                |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Atelier SA                                 |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Atlas Industrial Systems                   |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Avion East Rand                           |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Axion Hydraulics                           |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Bearing Man Group T/A BMG                 |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| C&F Technologies                          |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Commercial Shearing                       |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| CT Fluid Power Training & Consultants     |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| CT Hydraulics (Nqoba)                     |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| DCM Group                                 |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Dellflow                                  |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Dynot Engineering                         |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Eaton Hydraulics South Africa             |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Engineering & Hydraulic Services         |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Exact Measurement & Control              |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Fluid Power Group                         |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Hirisch Hydraulic Services               |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Honingcraft                               |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Hydair                                    |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Hydraspec                                 |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Hydramatics Control Equipment             |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Hydrapower                                |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |
| Hydrasales                                |           |                     |         |        |        |                            |           |       |             |                          |                               |                  |                          |                   |                |        |              |           |          |       |         |

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## Control systems & components

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