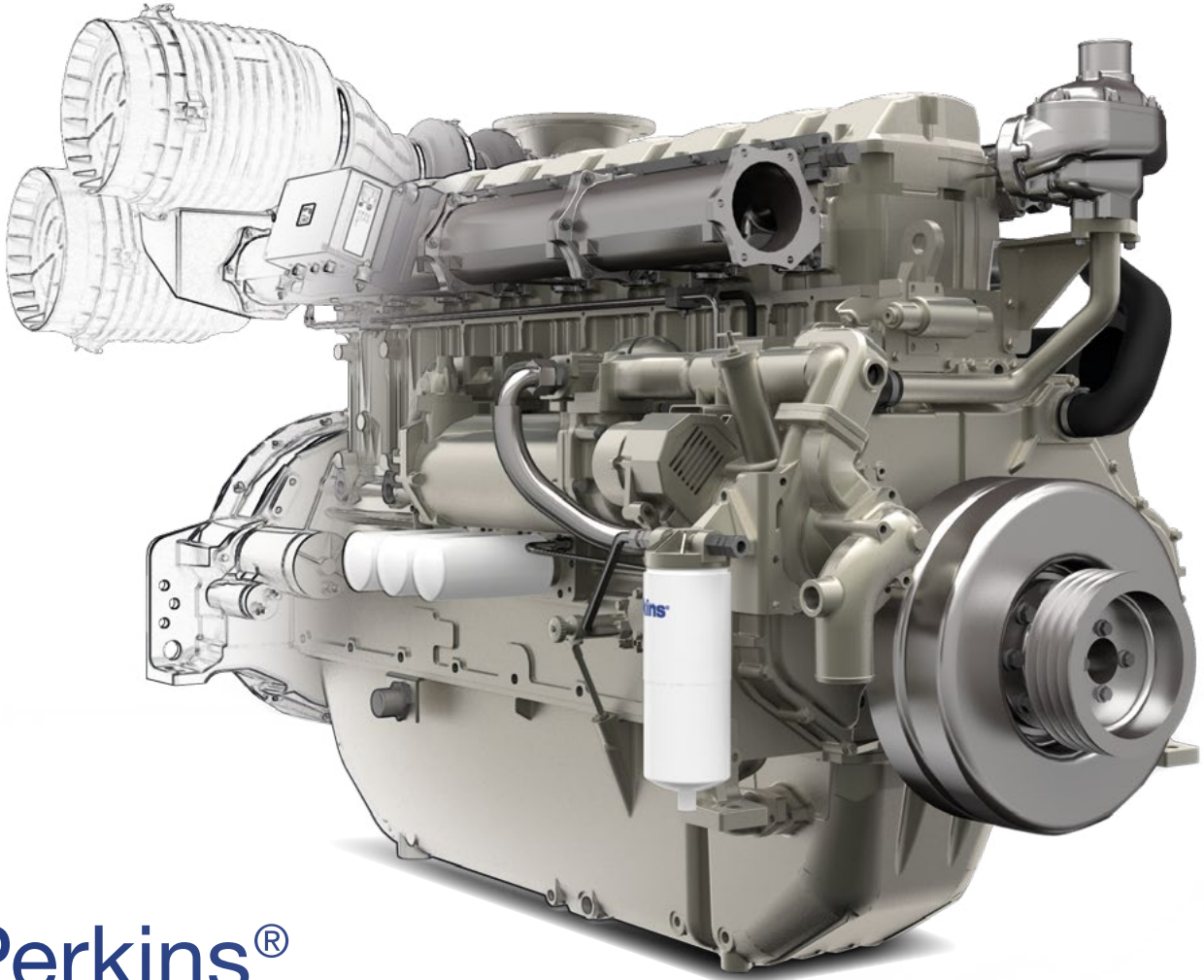


powernews

Middle East Electricity 2017 special edition



Perkins®
4000 Series
prime – the
power of
evolution

 **Perkins®**

THE HEART OF EVERY GREAT MACHINE



Perkins offers new power solutions for the telecoms sector

Trevor Toulson, Director Sales & Distribution for EAME & CIS and Perkins EP Business Strategy (pictured), speaks about the extended 400 Series engine range and how it will help the burgeoning telecoms sector.

What role does Perkins play in the global telecommunications sector?

Perkins is one of the world's leading suppliers of off-highway diesel and gas engines in the 8 – 2000 kW market. For many years we have supported the telecoms sector, as our 400 Series range of compact and reliable engines are particularly suited to powering small generator sets, often sited in harsh and remote environments.

Please explain Perkins' solution in the field and the results that have been achieved?

With the introduction of two new variable speed models added to our 400 Series – 1.5 litre and 2.2 litre – and extended service intervals, we have a complete product line-up that make us the perfect partner for telecoms projects. By choosing Perkins engines, customers get quality, reliability and consistency as standard. Our engines are ideal for reducing owning and operating costs, with excellent fuel consumption and the durability to operate in any territory. Through our 400 Series, we offer a complete engine range for telecoms towers. The recent addition of two new variable speed models to the range means we can offer fixed speed and variable speed engines from 0.5 litres to

2.2 litres, which meet all the key power nodes between 5-40 kVA. We understand the industry and know towers in different areas have different requirements. Whether the customer is on grid and requires a generator set back-up; or is off grid and needs a continuously running generator, our engines will integrate seamlessly into the telecoms solution that's being installed. Recognising the intense focus on reducing owning and operating costs for telecoms towers in the field, our investments in extending our service intervals are one step to helping customers achieve that goal. We also know regulators globally are demanding that telecoms businesses minimise the environmental impact of their operations. We support these goals by providing hybrid solutions, suitable for hybrid generators with a battery and hybrid generators with battery and solar power. These solutions can directly help meet the required standards whichever territory our customers are doing business in.

What differentiates Perkins from its competitors?

Perkins is one of the world's leading suppliers of off-highway diesel and gas engines, offering power up to 2500 kVA in diesel or 1000 kWE prime in gas. Our cost effective solutions, from competitive fuel consumption to ease of maintenance, whatever the power requirement, add real value to our customers' equipment. Dependable, reliable and cost effective engines are essential requirements

Reasons to choose Perkins as a telecoms partner

- **Proven 400 Series engine with more than one million engines sold**
- **Broad engine platform capable of meeting all key power nodes**
- **Available from four global facilities with global product support coverage**
- **Fixed and variable speed engines to meet different requirements**
- **Excellent performance at high and low load points**
- **Extended service intervals to reduce operating costs**
- **Proven in the field to deliver consistent high performance and meet the most stringent emission standards**
- **Switchable 50/60 Hz ratings to minimise inventory costs**

for the power generation market. Our engineering expertise means Perkins engines are designed for life, engineered without compromise and are built for instant response with thousands of hours of dependable running, regardless of the environment or location. Each and every one of our engine solutions from the 400 to the 4000 Series range are backed by Perkins global service and support network which operates in more than 180 countries around the world.

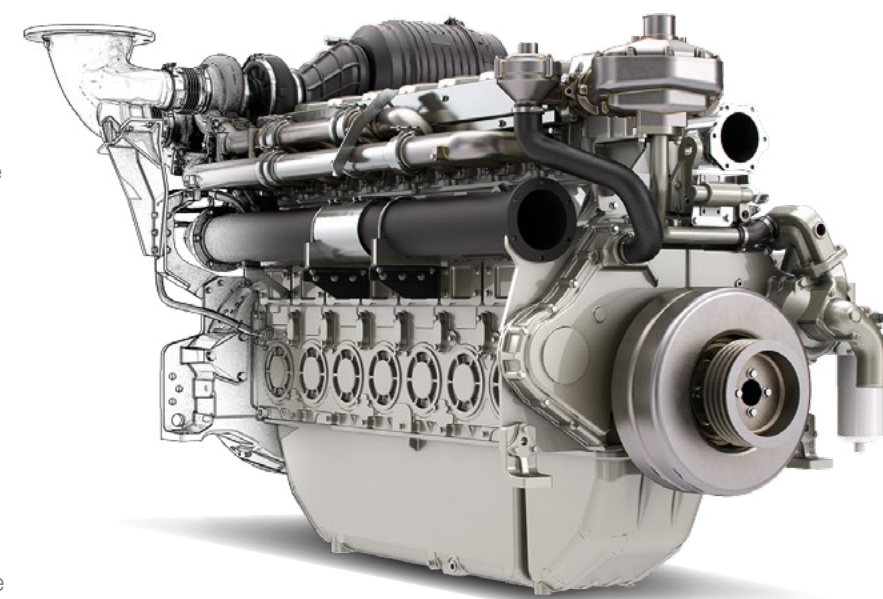
The 4000 Series has evolved for prime power

The steady evolution of the powerful 4000 Series has taken place over a number of years, thanks to significant investment from Perkins. Its development means the engine is no longer seen as simply a standby source – it's seriously considered for prime applications by Original Equipment Manufacturers (OEMs) and end users. The 4000 Series is tough and durable, provides consistent performance in the harshest conditions, and is proving to be a constant, reliable electric power source for prime applications all over the world.

At Perkins, we sell hundreds of 4000 Series engines every year into the prime power market. We've built more than 50,000 4000 Series engines for some of the world's biggest businesses, and up to 30 percent of those are for prime use in the electric power sector. Constant power is critical to people's lives and livelihoods. And whether it's for powering hospitals, telecoms, data centres or manufacturing plants, the 4000 Series provides dependable power 24/7, 365 days a year. The high performance range includes diesel and gas engines, from 6 to 16 cylinders, with exceptional power-to-weight ratios and a compact design. The engines are easy to transport, install and maintain.

Total transformation

Simon Gray, product marketing manager, says: "For more than 20 years, Perkins has made major investments in the design and manufacture of the 4000 Series. The heritage of the 4000 Series diesel and gas engines goes back to the early 1990s. "The 4000 Series platform was seen very much as a standby only



engine in the market. But over more than 20 years, Perkins has made major investments in the design and manufacture of the 4000 Series. The current platform is so far removed from the original that it's virtually unrecognisable. "We launched the 4008 at the end of 2015 and, alongside the revamp of the 4006, 4012 and 4016, this completes the overall product line-up. Whether it's for powering hospitals, telecoms, data centres or manufacturing plants, the 4000 Series provides dependable power 24/7, 365 days a year."

Fast facts on the 4000 Series

- **4 engine platforms**
- **6 models for 26 power nodes**
- **High performance range of diesel and gas engines**
- **6 to 16 cylinders**
- **23 to 61 litre**
- **750-2500 kVA (diesel)**

The range represents excellent value for money, and Perkins is so confident about its reliability that it has extended warranties to:

- One year of unlimited hours;
- Two years or 6,000 hours for prime power users;
- And three years or 1,500 hours (with a maximum of 500 hours per year) for standby.

Simon added: "We have a programme of continuous improvement in place focused on the design of components such as seals, gaskets, injectors and valves, to continually increase the performance, reliability and durability of our engines.

"Today the 4000 Series is all about quality and reliability. Not just for standby, but for prime. Where quality and reliability are paramount, you can depend on the Perkins 4000 Series to keep the power on... permanently."

● **To find out more and see the 4000 Series video visit www.perkins.com/primepower**

The best value cover for your Perkins engine

To support our customers beyond the standard warranty period, we have launched Perkins Platinum Protection which, dependent on engine model, covers up to ten years, 15,000 hours and the repair and replacement of 100 percent of engine components.

The customer benefits of Perkins Platinum Protection are:

- Cost effective, comprehensive cover on up to 100 percent of your engine components
- Access to, and support from, the Perkins global network including our fully trained certified technicians
- Genuine parts that have been rated and tested specifically for your engine
- No excess to pay – we cover you in exactly the same way we cover you during our standard warranty period*
- Unbeatable value for money and inflation-free protection, Perkins Platinum Protection must be purchased before the standard factory warranty expires.

- **For more information** visit www.perkins.com/platinumprotection

* Terms and conditions apply

Everything you need to service your EP engine

A range of 'service kits' for Perkins electric power (EP) engines have recently been launched. The kits provide end users with all the parts they need to carry out 500 hour and 1000 hour services for most standard EP engines.

The new service kits make ordering and reordering simpler, and there's the extra benefit of having all the parts boxed up in an easy-to-transport package.

The parts are also numbered, making it easy to track what has been changed and when.

There are 12 service kits in total, which cover the 400 and 1100 Series standard EP engine builds, while end users will have extra peace of mind in the knowledge that they'll be working with Perkins Genuine parts. And these come at an extremely competitive price as part of the pack.

Each kit comes with everything needed to carry out the service, including oil, fuel and air filters, belts, the correct rocker gasket cover for replacement when the valve lash is checked and, where required, the pre-filter for fuel and safety air filter.

Manufacturers of the power generation set (Generating Set Original Equipment



Manufacturers) will be able to offer the kits to their customers — providing the end user with value by ensuring they have genuine Perkins parts fitted from day one — but they can also be ordered separately as a simple, easy solution for onsite servicing with everything required in the box.

Julian Wood parts marketing manager, said the service kits provided major benefits for equipment manufacturers, and he stressed the advantages of having guaranteed Perkins Genuine parts.

"The parts in these kits are a carefully selected set to help you complete everything required in our recommended service. They have been precision engineered to fit your engine and are, of course, rigorously tested for quality.

"Our parts are designed to match the individual engine characteristics across the whole Perkins engine range, to fit first time and save on costly downtime."

- **For more information on what is required at every service, please refer to the Operation and Maintenance Manual at www.perkins.com/manuals**

Replacement engine solutions that meet your needs

As the cost of new machines continues to rise, more people are looking at major overhauls as an alternative to buying new. Perkins provides the industry's most complete range of remanufactured and replacement engines that are now more cost-effective and more readily available than ever before, no matter where in the world you are.

We help you to meet emissions standards and remain productive with as-new engine performance, 100 percent genuine parts and factory-standard warranties.

As a leading supplier offering a full range replacement engine programme, we can help end users minimise downtime in the event of in-field failures with more flexible overhaul options and shorter lead times.

"Our services are now more competitive and offer better availability than ever before, including support for previous engine generations and even competitor brands," said parts marketing manager Helen Hagan. She continued: "With as-new engine performance, Genuine Perkins parts and factory-standard warranties, we also help you to extend the residual worth of your

machine when you decide it's time to sell." Perkins offers off-the-shelf, new complete replacement engines on select models which meet emissions standards and are a drop-in aftermarket overhaul solution.

● New Long Engines and Reman Long Engines

Our long engines are built to a design specification that provides flexibility and value for customers requiring a re-power.

● New Short Engines and Reman Short Engines

Our short engines are an economical repair option with minimal downtime, delivering a dependable solution for major engine seizures.

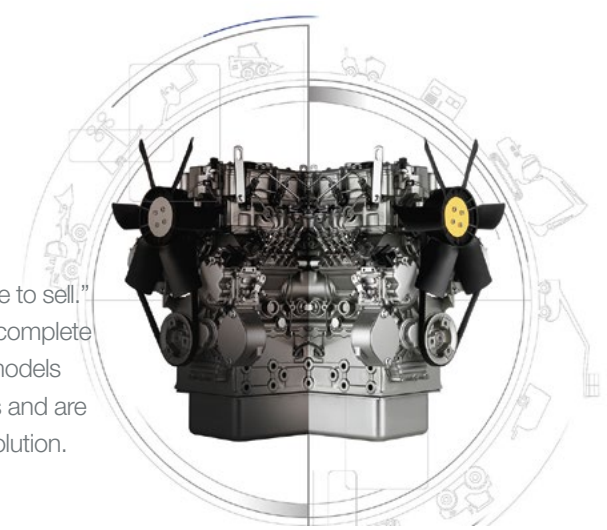
● New Complete Head

If your cylinder head is damaged but the rest of the engine is in good condition, our complete heads are a quick and cost-effective solution.

● Additional products and services

To complement our replacement engine solutions, we also offer exclusive aftermarket products such as extended warranties and specially formulated engine oil and coolant.

Our re-engineered replacement engine



solutions offer significant benefits to end users, including:

- Like-for-like engine performance at a fraction of the cost of a new machine
- Minimising expensive tier upgrade costs with a like-for-like engine replacement
- Greater return on your investment by extending the life of your machine and improving its resale value
- Order processing as quick and easy as buying new, which maximises productivity and minimises downtime
- Dependability – all replacement solutions comprise 100 percent genuine Perkins parts and come with standard factory warranties
- **For more information on Perkins range of replacement solutions visit www.perkins.com/replacementengines**

Perkins Diesel Engine Oil – the only oil we recommend

You might think that engine oils are all the same. In fact oil quality varies greatly. Lower quality oil has a shorter working life. Its impact on your engine will be higher fuel consumption and ultimately it will shorten your engine's life.

Using a good quality oil is genuinely

better for your engine, as it will maximise engine life, control emissions and reduce the cost of maintenance. The correct oil will give you significant benefits such as smoother running, longer engine life and better return on your investment.

To address our customers' needs, we've developed a new Perkins diesel engine oil (DEO), the only oil formulated specifically to match the conditions in Perkins engines.

This unique engine oil is comprised of a mix of additives, designed specifically to prevent the build-up of conditions which



STOP PRESS

Promotional pricing at MEE 2017

Perkins and Power Systems Gulf, the appointed distributor in UAE, are offering promotional pricing on replacement engines and services kits for a limited time only.

To discuss the MEE 2017 show offer visit the Perkins stand S1.C10

can impair the oil performance, reduce operating life and potentially damage engine components.

Available in 20 or 208 litre quantities, Perkins DEO is available from your local Perkins distributor – distributorlocator.perkins.com or visit www.perkins.com/ oil for more information.

Perkins distributors – the right choice for all your maintenance needs

Perkins distributors are simply the best when it comes to looking after your engine. Daily they carry out repair, overhaul and servicing to the highest standards, thanks to their Perkins-certified training, unrivalled knowledge of our products, and access to the latest engine data, tools and parts. If you want your engine to stay running reliably, performing to the maximum, and keeping your downtime to a minimum, choose our dedicated distributors to look after your engines.

- **To find your local Perkins distributor visit www.perkins.com/distributor**

Ghaddar Machinery chosen to power Amleya Hypermarket

Ghaddar Machinery Co. has been contracted to supply and install a series of power generators in the newly opened Amleya Hypermarket in Ghazieh, Sidon. The high profile project has provided Ghaddar and Perkins with strong brand exposure. The installation will involve 4 x 500 kVA and 1 x 250 kVA sets, synchronized together, to provide dependable power to the store.

● **Visit Ghaddar Machinery at MEE 2017 on stand S1.B10**



Ghaddar Machinery train the General Electric Company of Libya (GECOL)

Lebanon based Ghaddar Machinery Co. was approached by the General Electric Company of Libya (GECOL) to train 60 of its engineers and technicians at the company's headquarters in South Lebanon.

Power interruption in Libya has been seen in the last three years, leading to an increased reliance on emergency diesel generating sets. As a result the GECOL has been engaged in operating and servicing diesel generating sets. GECOL wanted to improve its service quality through enhancing the technical and practical skills of its engineers and technicians. They requested that the training had greater emphasis on the practical side.

Ghaddar Machinery's trainers and its training facility is certified by Perkins training guild, with the company training hundreds of people from the Middle

East and Africa since 2002.

GECOL's training covered many aspects including:

- Perkins range of diesel engines for power generation
 - Engine service and overhauling, Perkins 1100 Series analysed as a practical example
 - Perkins electronic engines: identification of different technologies as MEUI, HEUI, and others
 - Application and installation requirements
- Six inspectors from GECOL accompanied the trainees to make sure that the training was conducted as per the agreement. The trainees and inspectors commended the quality of training that Ghaddar Machinery provided. The training ended with a celebration and distribution of training certificates.



Captiva's Cube20 – the power of big in small

Captiva Energy Solutions' latest innovation, the Cube20, is already being used in challenging environments around the world.

The mobile and silent Cube20 is ideally suited to long-term power projects for a variety of on-site power applications such as powering remote locations, ports/jetties, construction, industrial plants, refineries and mining operations. Whether paralleled with the utility or isolated from the grid, Captiva says the units are reliable and designed to be easy to use.

The generator unit has been housed in a compact 20ft ISO container. Compact yet powerful, the Cube20 delivers economic power thanks to the Perkins 4000 Series, which is used in the range of sets delivering 0.8-1.2 MW.

Of particular interest is the 12 cylinder Perkins 4012-46TWG2A, installed in Captiva's CC20-1MW-S set, which delivers the all-important 1MW prime power node from a 20 ft container.

Captiva says the low power-to-weight ratio of the 4000 Series was a key driver behind the cube's design. The engine range also delivers additional features including high block loading capacity, low fuel consumption and long maintenance intervals. The 4000 Series is supported by Perkins' global class leading warranty. The Cube20 can also be used in tropical and marine environments as the cooling system is engineered to meet ambient clearance at 50°C at continuous rating. To meet the diverse energy needs of its customers the Cube20 comes with an option of switching between 50 and 60 Hz, with a wide voltage range for continuous, prime or standby applications.

● **Visit Captiva at MEE 2017 on stand O.A15**



Perkins engines customers at MEE 2017

Many of Perkins generator set customers will be exhibiting at MEE 2017. A number of other customers, not named below, are featured throughout the magazine.

- Allam Marine on stand S1.E10
- Al Majd Establishment for Electromechanical Works on stand H6.F19
- Coelmo on stand S3.B19
- Pramac on stand S3.B30
- MPMC Middle Est FZCO on stand S3.E49
- Tide Power Technology on stand S1.E50
- Ascot Industrial on stand S3.D50
- Ausonia on stand S1.K31
- CGM Gruppi Elettrogeni on stand S1.F19
- ELCOS on stand S1.K35
- Fujian Yanan Power Co Ltd on stand S2.C39
- Keypower Solutions (Fujian) Co Ltd on stand SA.H38
- GENMAC on stand S2.C01
- Genpower Generator on stand S1.G30
- Global Power Engineering Company Ltd on stand S2.D49
- Inmesol on stand S1.A40
- International Power Group (IPG) on stand S1.B58
- Jengan LLC on stand S1.E69
- Khonaysser Group SAL on stand S2.F39
- MASE GENERATORS on stand S1.K40
- Mosa on stand S1.K10
- Perin on stands S2.B58 & O.B35
- Shandong Huali Electromechanical Co Ltd on stand SA.F30
- Shandong Supermaly Generating Equipment Co Ltd on stand SA.H35
- Staunch Machinery Co ScS on stand S3.B01
- Sumec Machinery & Electric Co Ltd on stand S1.C41
- Tessari Energia on stand S3.A59

Jubaili Bros provides trusted power solutions

Shoppers can enjoy the biggest mall in south Iraq, safe in the knowledge that a reliable source of electric power is always available.

Jubaili Bros and Al Andalus have worked closely with the Basra Times Square project to provide dependable power for the biggest shopping mall in south Iraq, an office building and a 5 Star hotel.

Power comes from 12 Perkins engines, comprised of: 4 x 2000 kVA, 4 x 1500 kVA, and 4 x 1250 kVA, one of which is fitted in an additional standby generator.

The successful project was undertaken in conjunction with Al Andalus General Trading and Contracting, Jubaili Bros' dealer in south Iraq.

With 40 years' experience in the power generation field Jubaili Bros is among the most trusted names in the power sector. This was an important consideration for the CSC Bank in Lebanon, a leading bank in the industry, when it selected Jubaili Bros to fulfill its power needs. Four Perkins engines, 3 x 650 kVA and 1 x 350 kVA were fitted into Jubaili's Marapco branded generator sets with sound proof canopies. Jubaili also developed specially designed canopies to fit the available space on the roof of the three bank buildings.

● **Visit Jubaili Bros at MEE 2017 on stand S1.E30 & O.B15**

Picture: The specially commissioned generator sets are installed on the roof of three CSC Bank buildings in Lebanon.



Rapid growth for ITTS

International Technical Trading Services (ITTS) FZC has the leadership and dedication to become a leading diesel generator and low voltage switchgear supplier in the Middle-East, African, and Asian markets.

The company uses Perkins engines extensively in its range of diesel-powered generators, and puts its success in the field down to the quality of the Perkins engines.

ITTS has a vast network of traders along with their own sales team working tirelessly to pursue clients with their broad product range of generators powered by Perkins engines for everything from private usage and small businesses to construction projects and standby units for buildings and specialised oil and gas specifications, as well as the telecom sector.



AL FADDAGHI & Partners at MEE 2017

AL FADDAGHI & Partners has earned a reputation of excellence in its product range through its registered 'BRAVO TM' brand. Employing professional staff, engineers and highly skilled technicians, the company takes pride as a government licensed original equipment builder of

generator sets, with a power output of 10 - 3000 kVA. Using the complete range of Perkins engines, at MEE 2017 AL FADDAGHI & Partners will display a 16 kVA Perkins 403D-15G in its PRM18 Bravo generator set, model PRM18.
● Visit AL FADDAGHI & Partners Co at MEE 2017 on stand H6.G19

Precision Industries powers Haramain High Speed Rail project

The Haramain High Speed Rail project, also known as the 'Western Railway', is a 453 kms high-speed inter-city rail transport system under construction in Saudi Arabia. The rail project will link the cities of Medina and Mecca through the King Abdullah Economic City and King Abdul Aziz International Airport, Jeddah.

The project is planned to be completed by December 2017 and operative by March 2018.

The rail line will provide safe and comfortable transport in 300 km/h electric trains. It is expected that roughly three million passengers will use the rail line every year, including Hajj and Umrah pilgrims.

This key project is supported by standby generators supplied



by Precision Industries. The PI 58P, 50 kVA standby diesel generator is powered by Perkins 1103A-33TG1 engine. So far a total of 69 units have been installed during 2015-2016.

Precision Industries states it is dedicated to supporting its customers with unmatched expertise in power generation, an ethos which has made it a leading choice for reliable power solutions.



Istanbul Grand Airport (IGA) selects Aksa Power Generation as the power supplier to the world's largest airport project

IGA has chosen a leading Turkish generator manufacturer, Aksa Power Generation, as the power supplier to the Istanbul Grand Airport. Within the scope of the agreement made with IGA, Aksa will install 42 x 2500 kVA generators powered by Perkins 4000 Series engines, supplying 105 MVA energy for the Istanbul New Airport project.

Alper Peker, Aksa Power Generation CEO said the company was proud to be offering services to the Istanbul Grand Airport project. "The world's largest airport project with its yearly passenger capacity upgradable to over 200 million passengers, will have a 24/7 live infrastructure.

"In such a massive structure where the passengers comfortably get ready for their flights and in the meanwhile hundreds of thousands of flights are being coordinated, the energy is one of the major requirements. Within the scope of the coordination we have established with IGA, we will be performing an installation which is equivalent to a medium scaled power plant.

"We will supply any power requirements of the airport with our generators

which work synchronous with the mains electricity and we will make sure that corresponding services are uninterruptedly operational. For the world's largest airport project, as Aksa Power Generation we will submit our best efforts and what this responsibility requires."

Continuous and efficient cooperation

IGA Airports Construction CEO Yusuf Akçayo lu said he was pleased with GA-Aksa cooperation. He continued: "In light of the latest technological advancements, we meet any requirements and perform any works for Istanbul New Airport, which will become one of the most significant aviation centres around the world, to offer exclusive service.

"Energy is one of the most important requirements in such a large scaled project. In this regard, thanks to the cooperation we have established with Aksa, a market-leading corporation, any operations will be flawlessly accomplished."

● **See Aksa Power Generation at MEE 2017 on stand S3.D10**

Dependable power from Green Power Systems

Green Power Systems was recently chosen to provide the power for a major contract linked to the European high-speed railway project. The team at Green Power Systems designed the 800 kVA generator set, fitted with a Perkins 4006-23TAG3A engine, meeting the required emissions standards. It was installed in 20'HC soundproofed containers, suited for 55dB(A) at 7m. On the roof of the container, the team installed a NOx reduction system with SCR filter and urea system to minimise the emission levels, in accordance with the regional standards imposed at the site. The generator set, equipped with a parallel panel, worked 24 hours a day in order to supply electricity to the construction site.

Thanks to the collaboration with the Perkins appointed distributor in Italy, BU Power Systems Italia, the high quality of the products, the qualified personnel who worked on the project and the 24/7 immediate assistance provided, the project proved to be very successful.

● **Visit Green Power Systems at MEE 2017 on stand S1.C01**



Innovative power solutions from AJ Power

In 2003 AJ Power was set up by a small dedicated team of former directors and senior managers, bringing together over four decades of international power generation experience. Since its inception the company has maintained continuous growth, with products now distributed in over 80 countries worldwide. Based at a modern facility in Northern Ireland, UK, the company produces diesel fuelled electric power generating sets from 10-3350 kVA. It also has offices in England and Dubai as well as subsidiary businesses in Sweden and South Africa. AJ Power incorporates innovative solutions across its wide product range to provide a cost effective and reliable source of power.

The company employs a vast workforce, many from Northern Ireland's specialist universities, designing, developing, manufacturing and testing a wide range of generator sets. Designers use their knowledge of subjects like fuel combustion, electric circuits and digital control systems to optimise generator set design. At the same time they have a strong appreciation of environmental factors such as noise, vibration, exhaust emissions and the achievement of electromagnetic compatibility. From the freezing winters of Siberia to the searing heat and humidity of the summer in the Middle East, AJ Power generating sets are working every day.



Pictured: Twin pack sound attenuated enclosures for 2 X AJ1870 Perkins powered 4012-46TAG3A engines.



Perkins electric power for the Zugspitze

Perkins has been represented on the Zugspitze for more than 20 years. With a 3012 engine and two 2806 engines, Perkins ensures the emergency power supply and peak saving for the Zugspitze. The Zugspitze is the highest mountain peak in the Federal Republic of Germany, at 2962 meters above sea level. It is located south-west of Garmisch-Partenkirchen in Bavaria and in the north of Tyrol. The border between Germany and Austria runs over its western summit, with the Zugspitze receiving up to 4,000 visitors every day. Edel GmbH chose a Perkins

2806A-E18TAG2 from BU Power Systems Germany in January 2011, which has been used on the Zugspitze ever since. BU Power Systems Germany is proud of its long-standing business relationship with Edel GmbH, which specialises in emergency power technology. "We have a very good, trustworthy customer contact with Edel GmbH and can well imagine other projects for the electric power supply of the Zugspitze." says Peter Wagner, general sales manager at BU Power Systems Germany.

Perkins powered sets on show

A number of Turkish OEMs, each of who use Perkins engines to power their generator sets, will be exhibiting at MEE 2017.

- Visit Arken Jeneratör, which uses the complete range of Perkins engines, on stand number S2.B01.
- See Emsa Jeneratör, which uses

the complete range of Perkins engines and this year celebrates a 30 year partnership with Perkins, on stand number S3.B01.

- Visit Alimar Makine San. Ve Tic. A. on stand S1.B40 and
- Kürkçüolu Jeneratör on stand S2.F40

G.A.Solutions win major South Africa gas engine generator business

NOVO Energy, a leading Compressed Natural Gas (CNG) Company in South Africa has recently commissioned a new Natural Gas Compression Station in Kew, Johannesburg.

The new CNG facility uses pipeline gas from Egoli Gas's network, compresses, and fills purpose built vessels (CNG gas packs) at high pressure. The CNG gas packs are then transported to various customers as an alternative fuel. This provides gas to areas usually outside the normal pipeline infrastructure. CNG is also a cheaper alternative to petrol. The local taxi industry and other modes of public transport including buses, have successfully converted a number of their fleet to CNG. NOVO Energy's Kew facility also serves as a filling station and is well positioned to meet this demand.

Customer requirements

A gas fired power generation plant was required to supplement a limited mains power supply. Being a CNG production plant, a majority of the load at NOVO Energy's Kew facility are large high pressure gas compressors with Thyristor controlled soft starters. NOVO Energy's requirements were therefore a purpose designed internal combustion engine driven generator plant sized and configured to start and continuously run the compressor station in Island mode. The power generation plant was also required to synchronise, run parallel to and supplement normal grid power for additional compressor units.

Solution

After lengthy consultations, G.A.Solutions obtained a full



understanding of each of the compressor drive's start up characteristics and profiles. It was established that even with the Thyristor controlled soft starts, the power generation plant output requirement was significantly higher than the static load demand. This together with the requirement for continuous power, challenged best practice of running an internal combustion engine as close to rated power output as possible. In order to overcome running an oversized power generation plant at reduced capacity, two different size generator sets were provided. The larger of which was a Perkins 4006 unit.

Both generator sets run in parallel during start-up of NOVO Energy's compressor plant after which load is gradually transferred to the larger unit before shutting down the smaller set. This allows the larger Perkins powered generator to absorb more load and run as close to rated power output as possible.



Outcome

This unique, dual power generation system has provided NOVO Energy with an efficient and cost effective solution, incorporating proven Perkins gas fired engine technology, locally engineered, built and supported by G.A.Solutions.

G.A.Solutions, based in Johannesburg, South Africa, is fully supported by Mayphil (UK), an authorised Perkins Gas Partner. Service and support (24/7) are afforded to NOVO on all gas projects being undertaken. New projects on Biogas and Syngas are being discussed with major clients in Southern Africa and West Africa.

Reliable power from UPS

Ultimate Power Solution Group of companies are located in the United Kingdom, United Arab Emirates, China and the Commonwealth of Independent States (CIS).

The company supplies generator sets as well as all kinds of power station such as diesel, heavy fuel and even hydro generator. It provides the solution to the client, direct and through the dealer.

This business model, says Ultimate Power Solution, has led it to become one of the biggest suppliers of generators through its network and being regarded as a trusted supplier to famous companies including SEWA (Sharjah Electricity & Water Authority), ADNOC – one of the biggest Government Petroleum companies in UAE, Bee’Ah – an award-winning



A 1500 kVA Perkins engine fitted into a UPS generator provides dependable power for SEWA (Sharjah Electricity & Water Authority)

integrated environmental and waste management company in Sharjah, Hyundai Engineering and China Construction Company among others. At MEE 2017 UPS will display three Perkins powered generator sets:

- A 350 kVA set powered by

- a 2206A-E13TAG2
- A 135 kVA set powered by a 1106A-70TG1
- A 20 kVA set powered by a 404D-22G
- See Ultimate Power Solution at MEE 2017 on stand S1.F01

Electric power supply for a beer brewery in Angola

BU Power Systems Germany recently supported the Krones Group in the construction of a beer brewery with attached bottle production including glass melting in Angola. The electric power supply of the brewery is generated by 12 x 4016-61TRG2 Perkins engines. Together the engines have a power of 24 MW. The project was handled by Frerk Aggregatebau GmbH. BU Power Systems Germany has developed an increasingly intensified collaboration with Frerk over the last few years. Frerk is one of the largest manufacturers of electric power generators in Germany and has been present in the market for 50 years. The Krones Group, headquartered in Neutraubling, Germany, plans, develops and manufactures machines and complete lines for

the fields of process, filling and packaging technology. Every day, millions of bottles, cans, and special-shaped containers are handled on lines from Krones, in breweries, the soft-drinks sector and at producers of still or sparkling wines and spirits, as well as in the food and luxury-goods industries, plus the chemical, cosmetics and pharmaceutical sectors. Founded in 1951, Krones has become far more than a traditional-style machinery and line manufacturer: it has evolved into an all-round vendor for its clients. Mechanical engineering, line expertise, process engineering, microbiology and information technology have here been harmoniously integrated for optimum synergies. Nowadays, Krones is synonymous

with holistic systems engineering. Its success is based on a few, but crucial strategies: specialised knowledge of mechanical engineering and the customer sectors involved, a technical lead over its competitors driven by continually high expenditure on research and development, production facilities featuring state-of-the-art equipment operating to the most stringent of quality standards, backed up by worldwide 24/7 service support, and by the skills of its highly motivated staff. More than 4,450 full and utility patents bear witness to the company’s innovative potential. Worldwide, Krones employs 13,346 people and approximately 88 percent of its products are sold abroad.



Onis Visa’s mobile solution for transporting or lifting water

The Onis Visa dry prime range delivers fast dewatering solutions to sites where a power source is not available. The dry prime units offer high performance and efficiency to ensure predictable and timely job completion with, says the company, minimal operating expenses. The Onis Visa Motorpump range can be used in a range of applications and are best suited for transporting or lifting water with abrasive solids in suspension. This includes applications such as construction and mine site dewatering, floodwater and stream diversions or sewage in industries

and municipalities. The range is compact and versatile, covering multiple applications and states Onis Visa, is proven to perform in the toughest working conditions. The P60 +BA150E D285 Motorpump is fitted with a Perkins 404D-22T delivering 44.7 kW at 2800 rpm, while the P51 +BA150E D264 Motorpump uses a 404D-22 to output 38 kW at 3000 rpm. The pumps deliver maximum performance with a 100 percent mechanical priming system, and are built for use in the most demanding dewatering and sewage bypassing applications.

Each set features an emergency stop button, a 170 litre fuel tank with inspection points, retention basin and quick release fittings for external tank connections, a central lifting point and forklift pockets integrated into the chassis, an internal silencer and hinged doors for ease of cleaning and maintenance operations. With over 57 years’ experience, Visa operates in 80 countries, has five manufacturing plants, 281 employees and has used Perkins engines in its equipment for more than 25 years.

- Visit Visa at MEE 2017 on stand O.A39



TechnoPower – appointed by Power Systems Gulf LLC as OEMD to support Perkins engines in Yemen

Power Systems Gulf LLC has officially appointed TechnoPower, a leading generator manufacturing company with generator ratings (9–2250 kVA) as its OEMD in Yemen. TechnoPower has worked as a leader in power generation in the UAE, Saudi Arabia and Qatar and is now expanding into the Republic of Yemen, becoming an OEMD for Perkins engines. The company is fully equipped to handle service and spare parts

requirements on Perkins engines in Yemen. Technopower has supplied many generators across the Gulf region powered by Perkins 400, 1100 and 2000 Series engines to various projects which includes oil and gas sectors, government departments, hotels, industries and commercial buildings with provision of remote monitoring and control of generators from anywhere in the world. PSG will work with TechnoPower to ensure the highest level of support for Perkins product operating in Yemen.



Perkins powering the world

Every week Perkins loads a new electric power case study to its website. Our case studies highlight the versatility of our engine range to provide prime and standby power solutions to a range of installations including:

- Murtala Muhammed International Airport, Nigeria
- Salesforce Tower, UK
- Kumar Pacific Mall, India
- Hewlett-Packard Enterprise, India
- Tahrir Square, Egypt
- Indaver Waste to Energy Plant, Ireland
- Forward Operating Base Delaram, Afghanistan
- NATO HQ, Belgium

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Teksan sees significant business growth

Teksan, a leading Turkish generator set manufacturer, has been providing innovative uninterrupted power solutions for more than 22 years. The company started 2016 with a striking change in its logo and corporate identity, and announced it would be a year of development and renovation. In just 12 months, Teksan says it has proven its objectives by realising significant achievements – namely a 5 percent growth. The company also enrolled as 436th in Istanbul's Chamber of Commerce's "Turkey's Top 500 Industrial Enterprises" and came 436th in the Turkish Exporters Assembly's "Top 1000 Exporters of Turkey" survey published in 2016.

"We put a significant effort on expanding our export market coverage and potential," said Burak Basegmezler, member of the board – Sales & Marketing. "Thanks to our strong R&D and project development teams, we design best fitting tailor-made solutions for our customers, which exceed their expectations. For example, we designed a supersilent generator set for Allai Newroz Telecom, which is the leading telecom operator of Iraq. The supersilent generator sets, which were powered by Perkins engines, have a sound level of 60 dB(A) at 1 meter, while the sound level of regular products used in similar telecom projects are in-between

70 to 72 dB (A)" he concluded.

With the investment of 4 million TRY on R&D in 2015, Teksan climbed up to 97th place in the Turkish R&D Top 250 Survey published in December 2016. Burak added that Teksan is now designing not only today's, but also future technologies. He continued: "Beyond Turkey, our R&D efforts attracted many also in the world as well. The first hybrid generator set of Turkey, which we innovated in 2015, was elaborated in innovations with Ed Begley Jr aired on December 2016 through the Discovery Channel USA edition, which is one of the most popular channels in the World. This is an undeniable proof of Teksan's strength in R&D field."

At MEE 2017, Teksan will exhibit two products powered by Perkins engines. The Hybrid Power GenSet TJ 18300PE-HD is fitted with a 403A-15G2 engine while the TJ1900PE5A uses a 4012-46TA63A engine. Teksan's Hybrid Power System consists of a diesel generator set powered by Perkins' 404D-22G engine powering a battery bank, which can be operated together with PV panels and a wind turbine. The power electronic devices, specifically designed for telecom towers, will also be on show at MWC 2017 in Barcelona, Spain.

- Visit Teksan at MEE 2017 on stand S3.D40

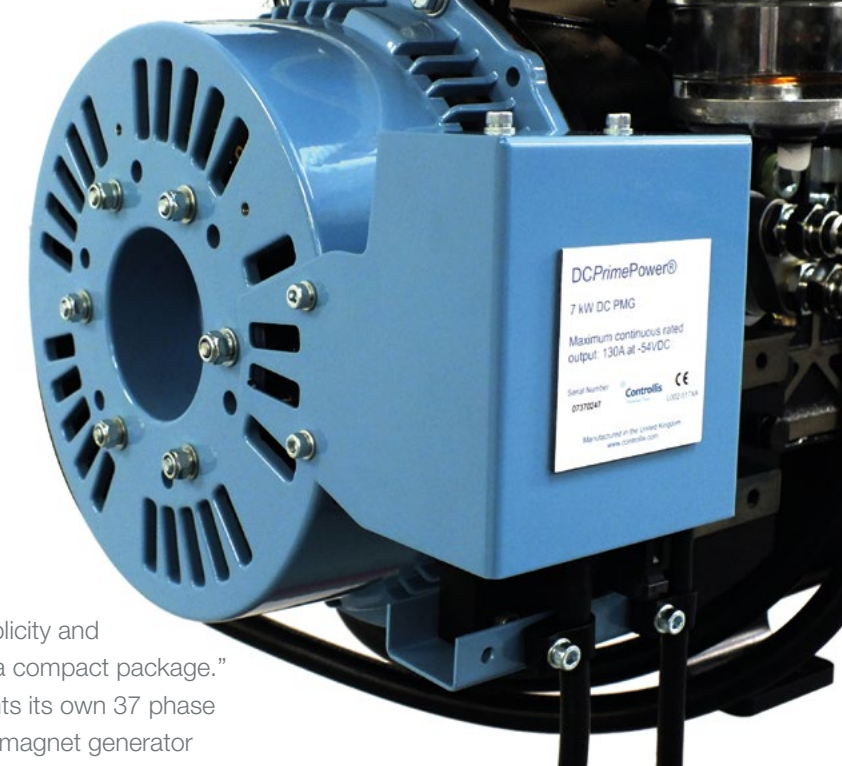


Perkins 400 Series powers Controllis

Controllis is a UK based control and power systems manufacturer that uses the Perkins 400 Series engines for its DC generator products. "We chose Perkins engines from the start due to their solid reputation for fuel efficiency, reliability and cost effectiveness", said Controllis CEO Simon Albury. "The 3 cylinder 1100 cc and 1500 cc engines are perfect for our 7-15 kW DC generator products

combining simplicity and ruggedness in a compact package." Controllis mounts its own 37 phase DC permanent magnet generator (PMG) directly to the engine flywheel and bellhousing. The benefits say Controllis are no couplings or bearings so the solution is practically frictionless. Controllis systems are on trial or deployment in 10 countries in Asia, Africa and South America. The remote

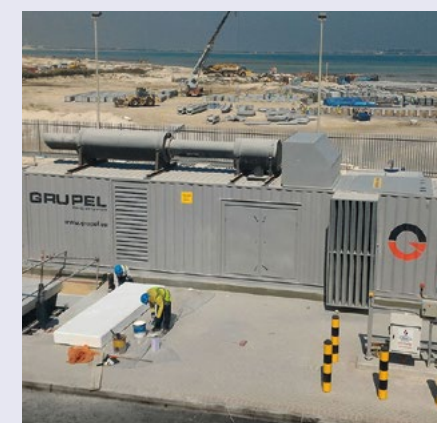
monitoring has proved invaluable to customers with fuel theft, fuel fraud and electricity theft. As the output from the Controllis PMG is DC, this is not attractive for the domestic power thief to steal as it requires an inverter.



Grupel provides dependable power for Qatar's newest water treatment plant

With more than 40 years' experience in the electric power generation sector, Grupel was chosen to provide standby power to Qatar's newest water treatment plant.

To meet the project's needs, Grupel installed a 2200 kVA (STP) emergency diesel generator fitted with a Perkins 4016-61TRG2 engine with heavy duty air filters and Stamford PI734G1 alternator in a 40" container. The generator set is installed at a reverse osmosis water treatment plant in Qatar where it feeds the essential load required to protect sensitive equipment at the plant, in case of a mains failure. Due to its location near the



sea, the generator was designed for operating under extreme weather conditions, including high temperatures, a high level of humidity and a high level of dust. The generator set has filters at the air inlets applied in a separate room for ease of maintenance and a water separator for filtering

the diesel supplied. It also has a separate control division, in which is installed the power and control panels, with air conditioning to keep the temperature at the desired operating level. The cooling system is also installed in a separate division of the container, due to the high level of dust that exists in the air flow.

The generator set is completely automatic. As the equipment plays a vital role in keeping the reverse osmosis plant operational in the event of a power outage, the generator set starts up and feeds the essential equipment in less than 10 seconds.

- See Grupel at MEE 2017 on stand S2.F10



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