CENTRAX
GAS TURBINES

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CENTRAX
GAS TURBINES

DELIVERING POWER AND EXCEPTIONAL SERVICE.
GENERATING TRUST.

centraxgt.com

ENGINEERING STRENGTH
INTERNATIONAL POWER

At Centrax, we've been powering industry since 1946. Our gas turbine generator packages provide efficient, reliable energy installations for a broad range of applications. From our base in South West England, our independent company serves a diverse international market – delivering complete power generation solutions, from design and engineering to assembly and maintenance. But what really fuels us at Centrax is a commitment to providing exceptional customer care with a personal touch.

OUR PRODUCTS

Centrax creates a series of high-efficiency gas turbine-powered generator packages to suit a wide range of industries and power applications.

Every package uses reliable, high-performance Siemens Energy core engines – and with power outputs ranging from 3 MW to 15 MW, our products can be scaled to match our customers' specific energy needs.

Our gas turbine technology delivers a number of essential advantages. It offers a fast power response, performs well at peak demand and copes capably with flexible demand.

These features make our packages ideal in standby and grid stability applications. What's more, gas turbines work flexibly with a range of gas sources – so you can use natural, landfill, flare and other process gases that might otherwise be wasted.

Whether you need power for district heating, oil or gas, a hospital or an energy-intensive industry, Centrax can engineer a generator package tailored to your specifications. Our standards-compliant range of energy products, combined with our global reach and exceptional comprehensive customer care, make Centrax a smart choice for power generation.

LRQA CERTIFIED ISO 9001 · ISO 14001 ISO 45001 — UKAS MANAGEMENT SYSTEMS 0001

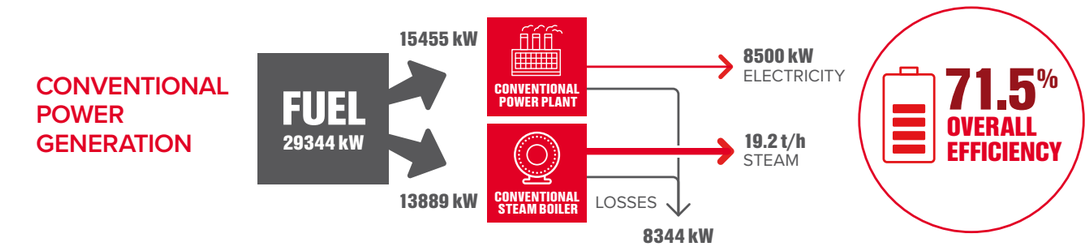
WE ARE CE COMPLIANT IN ACCORDANCE WITH THE FOLLOWING DIRECTIVES:

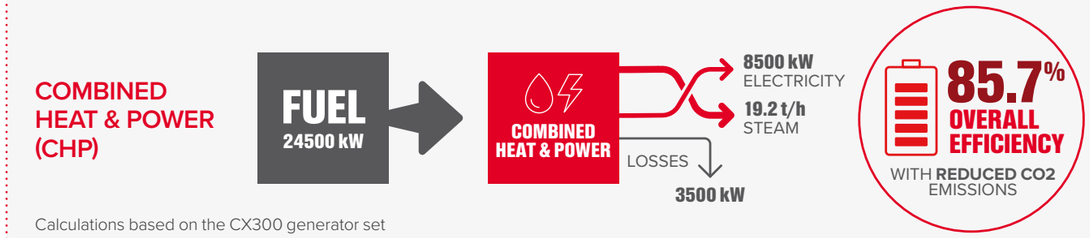
Low Voltage Equipment (LVD) – 2014/35/EU · Electromagnetic Compatibility (EMC) – 2014/30/EU
Machinery - 2006/42/EC · Potentially Explosive Atmospheres (ATEX) – 2014/34/EU
Pressurised Equipment (PED) - 2014/68/EU

COMBINED HEAT & POWER (CHP)

This popular application of our gas turbine packages offers a highly efficient way to meet your energy demands.

Unlike conventional power generation, CHP not only provides electricity but also makes use of the waste heat that is produced. This heat energy can be harnessed to create the steam, hot water and hot air needed in your manufacturing processes or district heating scheme. This clever technique, when designed and installed with Centrax's ingenuity, delivers a highly efficient, fuel-saving system for your industry or energy project.

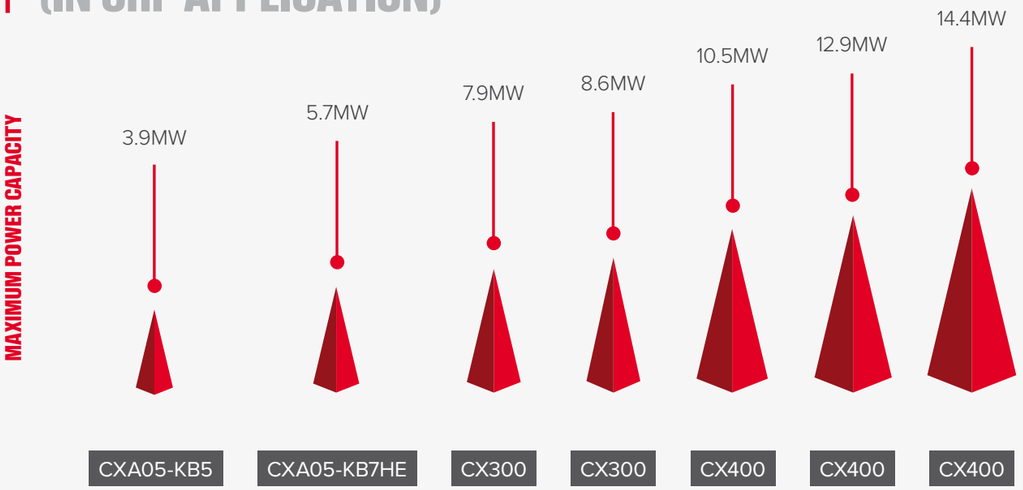




Calculations based on the CX300 generator set

All figures are approximate and graphical representations for illustrative purposes only.
16.5% Primary Energy Savings (PES) = 9928 tonnes CO_2 reduction per year with the CX300.

OUR GENERATOR PACKAGES AT A GLANCE (IN CHP APPLICATION)



OUR PRODUCTS

CXA05

Our CXA05 generator packages combine high levels of operational flexibility with low weights for their power output, making them ideal for a range of settings. Incorporating high-performance Siemens Energy engines, they deliver versatile and efficient energy solutions.

PACKAGE FEATURES

- Power generation in the range of 3.9 to 5.7 MW
- Aeroderivative Siemens Energy gas turbine engine (Industrial 501-K)
- Compact design and high power-to-weight ratio – generator set load of only 40 tonnes means lower foundation costs than for non-aeroderivative gas turbines
- CHP, flexible and standby power applications
- Can run on a wide range of fuel gases, including natural and landfill
- Able to operate in extreme climates, withstanding temperatures from -60°C to +55°C
- Fully integrated controls, motor control centre and batteries – allowing for a fast installation and minimal site area
- Package fully tested prior to dispatch, reducing the commissioning period and usage of site utilities

PACKAGE SPECIFICATIONS

	Power	Efficiency	Heat Rate	Exhaust Flow	Exhaust Gas Temp
CXA05-KB5	3,903 kW	28.7%	12,557 kJ/kWh	15.7 kg/s	555 °C
CXA05-KB7HE	5,711 kW	32.6%	11,052 kJ/kWh	21.3 kg/s	511 °C

Notes: Based on ISO conditions. Liquid fuel is also an option.
Steam and water injection engines are also available for enhanced power and emissions control.

THE CXA05 IN ACTION

BASF chemical plant, Italy

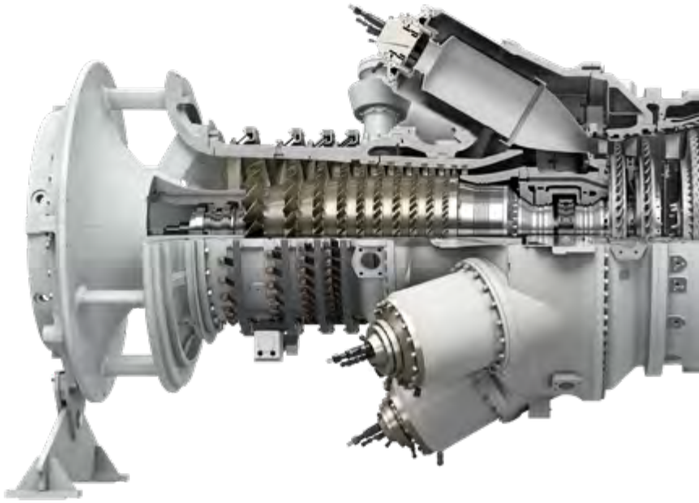
One of the world's largest chemical companies, BASF, commissioned Centrax to build a CXA05-KB5 DLE generator package for its plant in Pontecchio Marconi, Italy. This CHP project was designed to harness the KB5's 3.9 MW capacity to power and supply steam for the site's chemical processes, while also selling electricity to the grid. Thanks to BASF's size and engineering expertise, they were able to take responsibility for the technical and commercial demands of the installation. But with the site only 45 minutes away from Centrax's Italian service depot, we're perfectly placed to provide fast support to BASF whenever they need it.

OUR PRODUCTS
CX300

This package is the class leader in engine power and efficiency in the 7-9 MW range of gas turbines. Featuring our most efficient Siemens core engine, the CX300 is highly flexible, making it an excellent choice for an array of power generation applications.

PACKAGE FEATURES

- Outputs in the range of 7.9-8.6 MW and is industry-leading for engine power and electrical efficiency in this bracket
- Package incorporates the Siemens Energy SGT-300 core engine
- Suitable for multiple applications, including simple cycle, base load, standby power and peak demand power plants
- Offers cogeneration option for industrial plants with high heat load and for district heating schemes
- Low gas pressure requirements
- Factory-tested package designed for quick, cost-efficient installation and commissioning



PACKAGE SPECIFICATIONS

	Power	Efficiency	Heat Rate	Exhaust Flow	Exhaust Gas Temp
CX300 (7.9 MW)	7,903 kW	30.9%	11,643 kJ/kWh	30.2 kg/s	536 °C
CX300 (8.6 MW)	8,606 kW	34.7%	10,374 kJ/kWh	30.1 kg/s	498 °C

Note: Based on ISO conditions. Liquid fuel is also an option

THE CX300 IN ACTION

Ahlstrom Munksjö, Saint-Séverin, Charente, France

This project served a dual purpose – powering a production plant specialising in vegetable parchment for the food industry for international company Ahlstrom Munksjö, Saint-Séverin, while also supplying electricity to the national grid. The 8.6 MW capacity CX300 we installed is a CHP solution that generates power for French utility company ENGIE Cofely, while the waste heat is harnessed in Ahlstrom Munksjö's paper manufacturing processes. This neatly combines micro-level power with a contribution to national energy efficiency. Centrax has become a trusted supplier to ENGIE Cofely, this project adding to over 30 units we have already installed for the company's various end users across France.

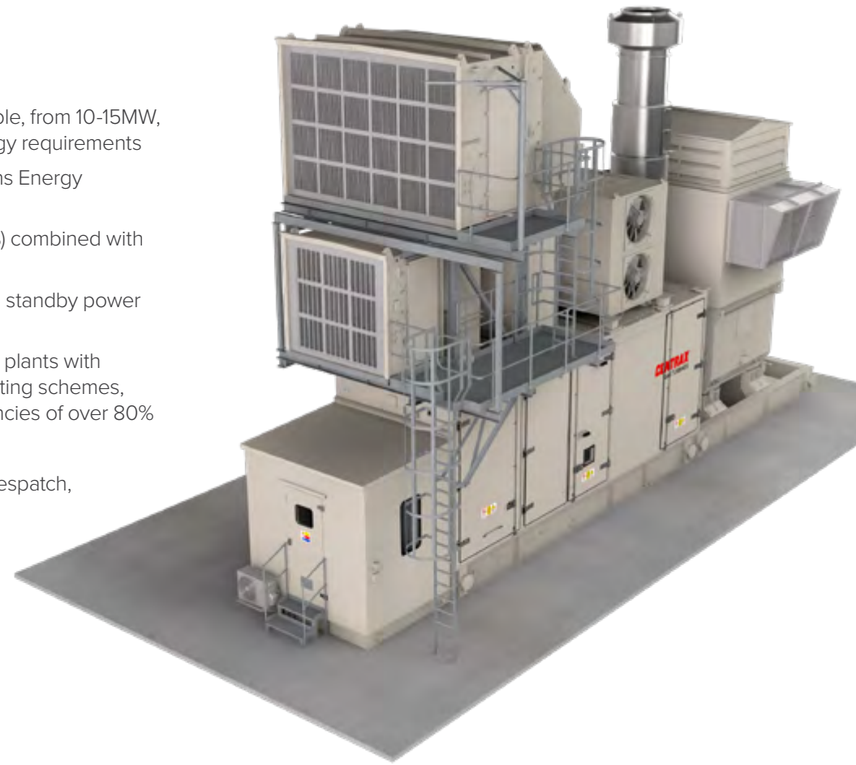
OUR PRODUCTS

CX400

The Centrax CX400 is our most powerful generator set. It tops its class for engine power and electrical efficiency in the 10-15 MW gas turbine range. Featuring flexibility and excellent emissions performance, the CX400 is the ideal solution for a variety of energy-demanding applications.

PACKAGE FEATURES

- A range of engine variants available, from 10-15MW, to closely match customers' energy requirements
- Package incorporates the Siemens Energy SGT-400 core engine
- Very high efficiency (nominal 35%) combined with a compact industrial design
- Suited to simple-cycle, base load, standby power and peak demand power plants
- Allows cogeneration for industrial plants with high heat load and for district heating schemes, with overall potential plant efficiencies of over 80%
- Minimal customer interfaces
- Factory-tested package before despatch, enabling faster installation



PACKAGE SPECIFICATIONS

	Power	Efficiency	Heat Rate	Exhaust Flow	Exhaust Gas Temp
CX400 (10.5 MW)	10,100 kW	34.5 %	10,428 kJ/kWh	33.4 kg/s	519 °C
CX400 (12.9 MW)	13,427 kW	35.8%	10,069 kJ/kWh	40.5 kg/s	543 °C
CX400 (14.4 MW)	14,501 kW	36.0%	9,989 kJ/kWh	44.5 kg/s	529 °C

Note: Based on ISO conditions. Liquid fuel is also an option

THE CX400 IN ACTION

District heating, Versailles, France

Utilities company ENGIE commissioned Centrax to replace the gas turbine in its existing district heating facility serving the French city of Versailles. The project demanded a high-efficiency power output and a rapid installation. We succeeded on both counts, achieving 99% overall CHP efficiency and completing in time for the winter heating season. The CX400 package supplies Versailles with 40% of its hot water demand and sends electricity to the grid. What's more, our successful delivery of this energy project led to ENGIE rating our service as 'exceptional'.

COMPLETE SOLUTIONS

The needs of energy production in heating and power schemes and industry settings are diverse and often complex. At Centrax, we have the flexibility and expertise to apply our gas turbine technology in a wide spectrum of contexts. So, whether you need to power a completely new project or to overhaul an existing plant – and wherever in the world you are – we can step in with the right solution.

TURNKEY SOLUTIONS

At Centrax, we don't just create turbine technology to meet your power needs. Our service can cover every aspect of setting up and maintaining your energy project. Our pre-built generators allow us to engineer and assemble your system quickly on-site. This complete service includes taking responsibility for everything from recovery boilers and gas compression to mechanical and electrical services and bespoke plant control systems. Centrax's integrated approach brings value and minimises disruption to your operations – providing an energy solution that's convenient, reliable, easy to maintain and saves you money.

UPGRADES

If you operate an existing generator package, Centrax can enhance the power facilities you already have. Whether you need to upgrade individual elements such as control panels, to boost capacity with additional generators, or to renovate a plant completely, we can do it. That applies both not only to existing Centrax installations but to other equipment brands too. Our versatile technology and innovative engineering approach enable us to make effective upgrades in many scenarios – increasing the efficiency and lifespan of your plant.

TRAINING

Our work doesn't end with the installation of your Centrax generator package. In line with our commitment to ongoing care, we provide a comprehensive training programme to ensure your staff are getting the best out of your new system. Customised to your specific project, this training includes multimedia teaching and practical demonstrations – and it leaves you fully versed in operating your control systems and familiar with the overall functioning of the package. We also run ad hoc training sessions plus offer ongoing training reviews to keep you up to speed when you need it. This hands-on guidance brings your staff the understanding and confidence they need to operate your Centrax gas turbine package safely and effectively so that equipment operation is maximised.

SERVICE & MAINTENANCE

Excellent service is at the heart of Centrax. We understand that in industry, losing power simply isn't an option. That's why we offer a no-risk guarantee for our customers.

Our gas turbines are built to be tough and reliable, and our ongoing servicing and maintenance programmes keeps them in optimal condition. But if a problem should arise, we take responsibility for putting it right swiftly and effectively.

With remote diagnostic technology, we are able to identify the cause of many technical issues immediately from our offices. This system allows us to monitor trends and respond to problems with speed and precision. But we also have the resources to deploy staff to provide a hands-on solution whenever it's needed. Our agile and highly responsive service team are ready to react to any challenges that come your way.

A LONG-TERM ENERGY PARTNER

With Centrax, you don't just get efficient power solutions. You also get a partner to provide ongoing support and guidance in the long-term. We work together with the shared goal of keeping your generator reliable and profitable into the future.

There's no-one better placed to understand our specialist energy equipment than our dedicated engineering experts. So with our excellent service and maintenance packages, you can feel confident that your energy package is in safe hands. Centrax takes care of your power needs, leaving you free to focus on looking after your core business.

INTERNATIONAL SUPPORT NETWORK

Centrax has invested in a comprehensive service system across Europe, ensuring we can extend our exceptional standard of service wherever on the continent our customers might be. Our service depots can be found in France, Spain, Italy, the Netherlands, Tunisia, Germany and the UK. Each employs native-speaking engineers, plus stocks of back-up engines and spare parts – and these can be mobilised quickly to resolve technical faults at customers' sites. That ensures minimal disruption to operations, whatever the location.

LEARN MORE

For further enquiries regarding the maintenance and on-going support of our products, please contact us:

customersupport@centraxgt.com
+44 (0)1626 358000

STAYING POWER

Smurfit Kappa Roermond Papier, The Netherlands

The meeting of Centrax and Dutch paper packaging producer Smurfit Kappa Roermond Papier took place in 1981.

But our installation of four Centrax 501 gas turbines to power the Roermond-based company's paper mill was only the start of the relationship. Delivering the Centrax commitment to ongoing service, we have installed more units and progressively improved elements of Smurfit Kappa Roermond Papier's power packages as technology has developed. This has been possible thanks to the proximity of our Dutch service base at Zoeterwoude. Over 30 years and a million operational hours later, our partnership with Smurfit Kappa Roermond Papier holds strong – a testament to the trust we have earned at Centrax through our ethos of excellent customer care and continuous improvement.