

Press Release

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Combined Cycle Power Plants - a Solution for the Future Controlled by Voith Variable Speed Fluid Couplings

In power generation, the trend toward gas and steam combined cycle power plants (CCPPs) is undeniable. In recent years, their numbers have increased dramatically, primarily in the USA. A total of 138 new plants were planned between 2013 and 2015 alone. There are many reasons for this development. In addition to their high efficiency, currently up to about 60 percent, CCPPs impress in particular with their flexible operating times when covering demand peaks. Besides this, they meet the government emission limits set by the Environmental Protection Agency (EPA) and benefit from the globally increasing availability of gas as a fuel.

A large number modern CCPP operators trust in hydrodynamic variable speed fluid couplings from Voith to control the speed of their boiler feed pumps. To further reduce costs for operators, Voith has continued to develop the product line and has optimized it specifically for the requirements of CCPPs.

Proven over more than 70 years, installed in more than 1,100 systems and plants globally, and conceived for operating conditions ranging from -40 degrees Celsius to +55 degrees Celsius, variable speed fluid couplings control the speed of boiler feed pumps for changing operating conditions. They ensure soft acceleration of the driven machine and load-free motor start-up. These features preserve the driveline. This is where the hydrodynamic principle takes effect: the speed is controlled without any contact, thus dampening torsional vibration and shocks. As a result, the Voith components increase the lifetime of the plant and avoid unscheduled downtimes with accompanying additional costs.

Hydrodynamics offer another decisive advantage. The coupling supplies both the motor and the boiler feed pump with lube oil at all times. This

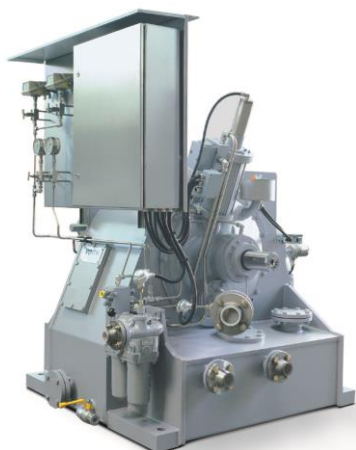
means it is not necessary to install an additional lube oil system; the operator saves on space and money.

Voith variable speed fluid couplings for this field of application transfer power of up to 5 MW and, with a mean-time-between-failures (MTBF) exceeding 25 years, ensure maximum safety and reliability in use. Their robust design also makes them suitable for external use in plants built in the open.

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According to International Energy Agency (IEA) estimates, by the year 2040 gas will have established itself as the most important component in the US energy mix with annual demand of 900 billion m³. The country's energy producers have already set the course for this today. Within ten years, the energy produced in gas turbine plants rose by 39 percent from 600 billion kWh (2000) to 981 billion kWh (2010).



Voith variable speed fluid couplings for CCPPs transfer power from 1 to 5 MW. They control the speed of the boiler feed pump in the latest generation combined cycle power plants.

Voith Turbo, a Group Division of Voith GmbH, is a specialist for intelligent drive solutions. Customers from highly diverse industries such as oil and gas, energy, mining and mechanical engineering, ship technology, rail and commercial vehicles rely on advanced technologies from Voith Turbo.

Voith sets standards in the markets energy, oil & gas, paper, raw materials and transportation & automotive. Founded in 1867, Voith employs more

than 39 000 people, generates €5.3 billion in sales, operates in about 50 countries around the world and is today one of the largest family-owned companies in Europe.

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