

Press Release

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Unbeatable reliability – Voith variable speed fluid couplings in continuous operation for almost 60 years with no unplanned downtime

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TES (Termoelektarna Šoštanj d.o.o.), the Slovenian power plant operator, has been the beneficiary of the high reliability of Voith variable speed fluid couplings for 58 years. The couplings are used in Block 1 and Block 2 of the Šoštanj, Slovenia, coal-fired power plant. They control the speeds of the boiler feed pumps – and have been doing it since 1956 without unplanned downtime.

Using the speed control capability of the boiler feed pump, the main control component of a power plant, the operator can easily match his process to the fluctuating energy demand of his customers. In 1956, TES elected to install the Voith hydrodynamic variable speed fluid coupling (type 510 SVL) to control the speed of the pump at the Slovenian coal-fired power plant at Šoštanj. The fill level of this fill-controlled coupling can be changed during operation. This allows precise, stepless speed control. As a result, the boiler feed pump is always operating in the optimum speed control range, helping TES save energy and benefit from lower operating costs.

Although the power plant operator has long since had to recondition the surrounding components in the driveline, the variable speed fluid coupling in the Šoštanj power plant has been operating reliably for 58 years. With its compact, robust design, the coupling is especially well suited to extreme ambient conditions such as heat and cold. It uses the hydrodynamic principle, that is, the force is transmitted without wear. The coupling lifetime is consequently many times that of a variable frequency drive. This saves the operator maintenance and service costs.

At the same time, the variable speed fluid coupling provides the operator with additional advantages. Thanks to the mechanical separation of the

drive side from the driven side, the coupling protects the entire driveline against vibrations and impacts. In addition, the motor runs up to speed without load and the driven machine accelerates gently. This reduces the load on the driveline and extends the lifetime of the individual components. The variable speed fluid coupling increases the availability of the entire system while avoiding the costs and loss of revenue that come with unplanned downtime.

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The Šoštanj power plant in Slovenia is currently being expanded by another block. This block will provide 600 MW of power. Voith is supplying three Vorecon variable speed planetary gears and eight geared variable speed couplings for the new block.



Figure 1: The Voith variable speed fluid coupling (type 510 SVL) has been operating reliably since 1956 without unplanned downtime.

Voith Turbo, a division of Voith GmbH, specializes in intelligent drive solutions and systems. Our customers in the oil and gas, energy, mining and metals processing, marine propulsion, rail and commercial vehicles industries rely on solutions from Voith.

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