

Press Release

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Voith Hirth Couplings in Gas Turbines and Compressors – Operationally Reliable, Self-Centering and Easy to Assemble

Whether in gas turbines or turbo compressors – the patent for a positive locking connection between shafts and wheels developed by Albert Hirth at the beginning of the 20th century is just as important today. Voith acquired the patent more than 50 years ago and manufactures the proven Hirth coupling with a diameter of up to 1,600 mm and 720 teeth. From support during design and layout to retaining the original balance even after being disassembled several times, operators benefit from the Voith solution over the entire life cycle.

Light construction with high-strength connections; under the motto "We Drive Your Productivity," Voith will be presenting the model of a shaft offset with Hirth couplings at booth 1O12 of Power-Gen Europe 2015 in Amsterdam.

Gas turbines and turbo compressors are subjected to extreme loads. They need to ensure maximum reliability despite the high pressure and extreme temperature differences. Hirth couplings from Voith are used at various key points here, for example, between gas turbine disks or as a connection between the impeller and pinion shaft. They ensure high precision in both axial runout and concentricity and reduce the load on the bearings due to their precise, reproducible centering. They also reduce the rotating mass in comparison to force-fit flange connections.

Shafts and their seals in the driveline of coolant pumps need to be regularly maintained. In this case, Hirth couplings provide the option of combining several shaft segments into arrays up to five meters long. It is not only considerably more cost effective to manufacture the small segments; they can also be assembled very quickly or removed individually. Hirth couplings guarantee concentricity precision of better than

0.05 mm even in arrays and retain the original balance even after being disassembled several times.

Leading manufacturers of gas turbines, turbo compressors and turbo fans rely on the safety and repeatability of Voith Hirth couplings.

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Pinion shaft of a turbo compressor with Voith Hirth coupling



Voith Hirth coupling connecting the shaft and impeller



Gas turbine disk array with Voith Hirth couplings

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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