

6000t Fast Forging Open-Die Press for aviation and aerospace products



SUCCESS STORY

Wepuko PAHNKE

Overview

Avic Shangda Superalloys specializes in producing forged components for the aerospace and aviation industries. To meet today's demands, this fast-forging press system meets the expected production volume and quality for the near future.

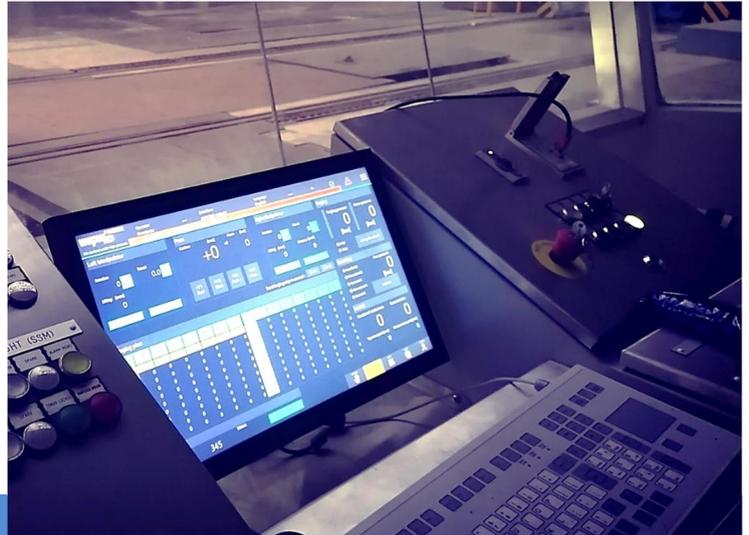


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Challenge

Avic Shangda Superalloys was established in 2007 in Qinghe, Hebei Province. The company specializes in producing superalloys, corrosion-resistant alloys, ultra-high strength alloys, and precision alloys. The aerospace, marine, oil & gas, chemical, nuclear, electronics, and general engineering industries use these products.

A steadily increasing workload overwhelmed the available forging equipment at Avic. Thus, a suitable press system was required to meet Avic's performance and throughput needs, satisfying the higher demands and retaining their new and long-standing customers.

Solution

Oil flow directly controlled by variable flow pumps is the motion control concept of the Wepuko PAHNKE direct drive system. Special Wepuko PAHNKE-made drive pumps can also reverse the oil flow, meaning they feed the press cylinder with pressurized fluid and release pressure in the same way. The result is an efficient, highly dynamic, and smooth press motion that provides long system component lifetimes.

To satisfy Avic's requirement of a dynamic, robust, and high-speed press drive system, 16 highly efficient RX-500 radial piston pumps directly drive the 60 mega-newton press. With this power package, the press operates at a forging speed of up to 250 mm/s.

Benefits/ Results

The new press system reduces the energy consumption per produced tonnage due to the energy-efficient PMSD-drive system.

With the installed drive power, it is the fastest open-die forging press built to date for forming superalloys for the aerospace industry. This high-speed press enables Avic to add larger-scale and tougher-to-forge products to its portfolio. Furthermore, Avic can guarantee higher quality for their forged products as the precision and data documentation is now to the highest industry standards, utilizing the latest controls technologies.



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