

ENGINEERING
TOMORROW



Case study | VACON® NXP Standalone Drive

VACON® drives **maximum uptime** at the Czech Republic's largest steelworks

24/7

availability demand
fulfilled



Rarely is reliable uptime so critical, as during continuous casting at a steelworks. To ensure reliable 24/7 operation of continuous casting, system integrator Ingeteam chose VACON® NXP drives to regulate the electromagnetic stirring (EMS) process at the renowned Třinecké železářny a.s., the largest steelworks in the Czech Republic.

The Třinecké železářny steelworks has relied upon VACON® drives to regulate pumps, conveyors and hoists for many years. The plant operators have built up long experience and appreciate the good programmability and ease of maintenance of these drives. They are well-suited to the harsh environment in this heavy industry, and have demonstrated robust performance and long lifetime, many times over.

In 2018 the steelworks renovated its electromagnetic stirring (EMS) process in the continuous casting plant. In this retrofit project, VACON® NXP Standalone Drives were installed to replace a series of twenty-year-old drives from New Zealand.

Dedicated EMS control solution for the **metal industry**

The electromagnetic stirring process (EMS) involves a rotating magnetic field in huge coils. Liquid steel passes through the coil, which acts like a stator to give the liquid steel a rotational movement. This process ensures better quality of the casted product.

With the retrofit, nine VACON® NXP Standalone Drives equipped with PROFIBUS communication were installed to control the rotating magnetic field, to maintain a frequency range of 3-5 Hz and nominal 300 A current.

This dedicated solution has been developed specifically for optimal control of the EMS application.

Sharing knowhow

Ingeteam chose the VACON® drives for this task based on their previous

performance record at Třinecké železářny.

Furthermore, Danfoss Drives Moscow team offered extensive application support in the design phase, providing programming support to Ingeteam whose delivery included installation, PLC programming and supervision. Ingeteam and Danfoss Drives cooperated on testing, installation and commissioning of the drives. The first test drive was retrofitted in August 2018, with final installation and commissioning of the remaining drives in October 2018.

100% reliability, easy serviceability and local presence

"We chose Ingeteam with Danfoss VACON® drives because they offered us the most robust solution, with

100% reliable 24/7 performance. Serviceability of the standalone drives is easy, which is vital for our steelworks in scheduled maintenance situations. Best of all, Danfoss Drives offers us the presence of a local service and application team who participated actively throughout the planning, installation and commissioning, and who can support us with the regular service to keep the EMS process performing optimally." – explains Michal Podermanski, Project Manager, Třinecké železářny a.s.

Full compatibility

Radiated emission measurements prove that the Danfoss drives are fully compatible with analog mold level measurement sensors from the renowned supplier VÚHŽ a.s.

Application engineer Adam Blažek, who was responsible for smooth implementation and commissioning of VACON® NXP drives, is highly satisfied with the performance of the VACON® NXP Standalone drives.





Steel leaves the final stirrer of the casting line



Třinecké železářny a.s.

Established in 1839, Třinecké železářny a.s. is the largest steel producer in the Czech Republic, exporting to more than 60 countries globally. Since its establishment, Třinecké železářny has

produced approximately 180 million tons of steel. The steelworks is an important element of the region and the town of Třinec, which has changed from a small agricultural village to a considerable town, especially thanks

to Třinecké železářny. Known locally as Werk, the company supports the Czech Extra-league Ice-hockey team HC Oceláři Třinec and numerous other cultural, sport, and educational activities. www.trz.cz