

PRESS RELEASE

Düsseldorf, August 05, 2020

TMK Seversky installs CONDRIVE oscillation drives from SMS Concast on five-strand bloom caster

First ever use of CONDRIVE oscillation drives on a
bloom casting machine



CONDRIVE direct oscillation drive from SMS Concast for long-product continuous-casting machines.

TMK's Seversky Pipe Plant (TMK Seversky), based in Polevskoy, Russia, has successfully commissioned CONDRIVE oscillation systems from SMS Concast, a company of SMS group, on its five-strand bloom casting machine. Seversky Pipe Plant (TMK Seversky) is part of the Russian TMK Group, a world-leading producer of tube and pipe products for the oil and gas industry.

For more than six months now, the CONDRIVE direct-drive systems have been operating with the expected high precision and reliability – and for the first time ever – on a resonance oscillation system of a bloom casting machine. The caster is designed for the production of round blooms in diameters from 150 to 400 millimeters. The installed direct oscillation drives from SMS Concast

have fully met the customer's requirements and specifications. The central aims of the installation were to enhance the control of the continuous casting process, improve the product quality and guarantee long-term process reliability along with minimized operating costs. Especially during the casting of small-diameter blooms, which takes place at higher casting speeds, TMK Seversky has been able to reduce the breakout rate to basically zero – thanks to the CONDRIVE oscillation technology.

The CONDRIVE equipment was installed without delaying the production plan. On each strand, the installation took only half a regular maintenance shift. The CONDRIVE systems were immediately ready to start operating, without any additional adjustment.

“Thanks to the excellent cooperation between our commissioning team and the SMS Concast specialists on site, we were able to grant the FAC just one week after the commissioning,” says Aleksandr Murzin, Head of Metallurgy at TMK Seversky.

TMK Seversky is now able to adjust the oscillation curves (frequency and stroke) highly flexibly in an online process, with special consideration of the requirements of the individual steel grades and bloom diameters being cast. Given TMK Seversky's range of SBQ (Special Bar Quality) tube grades and its various round bloom formats ranging from 150 to 400 millimeters in diameter, the online adjustment of the oscillation curve will contribute significantly to an enhancement of the product quality.

During the tendering procedure, TMK conducted a detailed comparison of the advantages and disadvantages of the different oscillation technologies. While hydraulic servodrive systems, for example, are also able to be fitted with online oscillation-curve adjustment, those systems do require expensive hydraulic units, control the oscillation torque less precisely and have to be maintained and serviced regularly. Compared to those drive systems, the CONDRIVE technology from SMS Concast came out as the clear winner – not least due to its significantly lower capital and operating costs.

The main component of CONDRIVE is its powerful torque motor with an eccentric shaft connected to the oscillation table by means of a lifting rod. In combination with its highest-precision digital control system, CONDRIVE performs significantly better in terms of acceleration and speed control than other types of systems.

TMK Seversky mainly produces hot-rolled and welded steel tubes at an annual production of about one million tons.

SMS group is a group of companies internationally active in plant construction and mechanical engineering for the steel and nonferrous metals industry. It has some 14,000 employees who generate worldwide sales of more than EUR 2.9 billion. The sole owner of the holding company SMS GmbH is the Familie Weiss Foundation.