

Cast iron sewer parts are cooled on 27 meter casting cooler

Categories: Foundry & Steel Industry

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Cast iron parts are cooled from 550°C to 80°C on a vibrating machine.

A client from Poland placed an order with JOEST to manufacture a casting cooler for cast iron sewer parts. In the 27 meter long and 3.2 meter wide machine, the parts are cooled from max. 550°C to 80-100°C. The effective machine surface area of 27x3.2 meters, is necessary, to ensure a sufficient area of contact between the cast iron parts and the cooling air. This is thermodynamically required for the intended heat exchange to be effective.

The challenge in manufacturing this 40 ton casting cooler was the very limited height available by the client, due to the existing space in his plant.

The parts come from two separate moulding lines – a horizontally divided flask mould line and a vertically divided flask less mould line. The conveying principle is based on a low-frequency, near resonance, vibration. Thus, only a very small drive power is needed. The 22kW drive is located in the middle of the machine. In effect of the low-frequency vibrations and the resulting low acceleration, the parts are conveyed gently and quietly.

The principle of this cooling rests on the convective heat exchange between the cast and the air in a counter flow. This process features the highest cooling efficiency.

To allow for thermal expansion, the trough is divided into multiple sections which are screwed onto the trough frame in a flexible design. The air- and dust-tight hood is screwed to the trough.

In order to minimize the transmission of vibrations into the base, the machine includes an active compensation technology using vibration dampers.

The casting cooler was delivered to the client in Mai 2019 and will be commissioned later this year. JOEST casting coolers are successfully used in the foundry industry for decades. Find the best possible solution for your application with JOEST-Technology.

Tags: JÖST,Casting Cooler,Cast Iron Sewer Parts,27 Meter