OTTO JUNKER supplies two Coreless Induction Furnaces for High Pressure Die Casting Plant

Lundbergs Pressgjuteri, based in Vrigstad, Sweden, placed an order with OTTO JUNKER GmbH in April for the supply of two medium-frequency induction melting furnaces for aluminium.

The company has a long history of manufacturing high-quality high-pressure die castings, which are used in the telecommunications industry, heavy vehicle manufacturing, machine and equipment engineering, electronics industry, furniture making, and disability aids and equipment.

In order to manufacture high-quality products with maximum energy efficiency, the company has invested in the use of electric power from renewable sources. In 4 years’ time the changeover should be completed, resulting in savings on previous consumption of 40% (1 million kWh).

Lundbergs Pressgjuteri is thus taking a future-oriented approach, feeding their high pressure die casting machines with hot metal from induction furnaces. It was recognized that these offer significant advantages over resistance heated or gas fired furnaces. An essential advantage is the bath movement, which enables return material to be stirred into the melt. Due to its particularly light weight and small size, this material cannot be utilized in the existing resistance-heated process and has to be sold as scrap.
By using coreless induction furnaces, the melting process can now be optimized in terms of resource and energy efficiency.

The new melting system consists of two 1,000 kg furnaces operated in tandem via a 750 kW frequency converter. Thanks to this DUOMELT design, power can be distributed freely between the two furnaces operating in tandem.

The frequency converter used is equipped with modern IGBT modules in order to operate the system with a consistently high power factor (cos phi = 0.99 at the converter input).

Since energy efficiency is particularly important to Lundberg Pressgjuteri, both furnaces were fitted with a modern energy-saving coil, which increases efficiency by up to 7%, especially when melting aluminium.

The JOKS-Touch system with two operator stations is used to control, monitor and document the process automatically.

The complete equipment is easy to maintain, thus guaranteeing high availability, and impressively demonstrates the current state of the art of OTTO JUNKER process technology.