Spraying and extraction done by robots at Ching Ming

Robots give Ching Ming Metal Manufacturing Ltd a cutting edge when it comes to die casting in China. China is a powerhouse when it comes to the foundry industry: Nearly 5 million tons of castings are produced yearly, most of them in the Yangtze Delta area. As globalization of the world economy accelerates, the global annual demand for castings is reaching approximately 80 million tons, and both international and national markets are increasing their demands for Chinese-made castings continuously.

“Of course the rapid increase in casting production is not without its drawbacks – for example, higher energy and resource consumption, environmental pollution and cheap labor,” says Wang Weidong, marketing director for Ching Ming Metal Manufacturing Ltd and Ching Ming Aluminum Die Casting Mfy., Ltd. Add to this problems with out-of-date equipment and poor process automation capability, it’s easy to see the challenges facing the industry.

Light metal specialists
But Ching Ming is ahead of the curve. With advanced die-casting machines, a high degree of automation and voluminous orders, Ching Ming has high requirements on the automation capability and stability of manufacturing and uses many die-casting robots from ABB for its production lines and processes.

Ching Ming, a Hong Kong-invested company and a subsidiary of Hong Kong Ching Ming Co., Ltd, was established in 1968. Ching Ming Metal Manufacturing and Ching Ming Aluminum Die Casting Mfy. Ltd. specialize in making and processing aluminum alloy, zinc alloy and magnesium alloy die castings as well as a variety of metal shaft work pieces for household appliances, electronics and automobile parts with sales throughout Europe and America.
Most of the 33 foundry-specific robots supplied by ABB to Ching Ming are used for spraying. The specialized modular standard spraying system used provides flexible spraying function with small nozzle and spraying amount, easy control and fully compliant atomization effect. “ABB’s industrial robots are famous for quality. In addition to excellent performance, ABB has perfect organizations across China for technical, sales, engineering, service, etc.,” says Wang, “ABB also tailored a complete range of intelligent solutions for us, helping us focus on high-end customers and markets with high-tech and sophisticated products.”

To more effectively optimize the efficiency in release agent spraying of die casting, ABB developed a new solution: Spraying & Extraction MultiMove. The solution increases productivity by using one control system for two robots, one for extraction and the other for spraying release agent, and reduces the adaptation error between the two robots and minimizes interference between different equipment by using one program.

As a result, the robots and their solutions supplied by ABB, a long-term partner of Ching Ming, have allowed for flexible and persistently high speed processing with optimized efficiency, improved precision and quality, lower cost and less waste.

Solid foundation
Industrial robots have unparalleled applicability for the weaknesses of Chinese foundry industry, such as out-of-date equipment, low content of technology, unstable production and product by hand work, among other things, says Wang. “It is evident that robotics will be a solid foundation stone for the development of Chinese foundry industry,” he says.

FACTS
Benefits for Ching Ming in using robots for its production include:
- Flexible and consistent high-speed processing
- Optimized efficiency
- Improved precision and quality
- Lower costs
- Less waste

ABB Robotics
www.abb.com/robotics