

Winkelmann Longchuan

Case study: Metal Fabrication

Application

Arc welding

Products

Fuel rails



Winkelmann Longchuan enjoys **easy expansion**

Winkelmann Longchuan has achieved astounding progress over the past decade, becoming the indisputable leading producer of fuel rails in China.

> In China, the rapid growth of Shanghai Winkelmann Longchuan SWL Motorcomponents Co. Ltd. has surprised even the boss himself.

“We provide fuel rails to automobile makers,” says chief engineer Guo Feng. “In 1997, when the company was founded, we produced 1,000 rails a month. Today our monthly output is 280,000.”

Winkelmann Longchuan enjoyed this rapid growth thanks largely to the rapid development of China’s automobile industry, which was, Guo notes, “far beyond our expectations.”

The fuel rail is essentially a pipe delivering fuel to individual fuel injectors on combustion engines. It is an

integral part of an automobile engine, and Winkelmann Longchuan is the largest manufacturer with approx 80 percent of the domestic market, says Guo.

The Winkelmann Longchuan joint venture was launched in 2005 as a way for the company to reach the European market. It remains the only Chinese company to export fuel rails internationally, selling its products to Russia, Italy and Germany.

Guo explains that as automakers develop new concept cars and environmentally friendly vehicles, his company’s products will be in demand. “Our high-pressure fuel rails disseminate the fuel in a fine spray and burn it more completely, which helps to save fuel,” he says. >

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> In the next five years, Winkelmann Longchuan hopes to increase its productivity by 50 percent. "It's our basic strategy to go for automation and increase production per person," Guo says. In the past two years, the company has already made strides in this direction, doubling its productivity without increasing its workforce of 280.

"We have invested from USD 1.18 to 2.2 million a year in new equipment," he says. "In 2008, we will introduce our third ABB welding robot to the workshop."

All three are IRB 1410 robots. One of these robots does in a single process what has traditionally taken 10 to 12 procedures, each done by a separate worker on an assembly line.

The robots save not only labor costs but wear and tear on the workers.

>FACTS

Efficiency Optimization

- ABB robots complete in one welding process a task that traditionally took 10 to 12 workers.
- ABB robots free workers from contact with poisonous ammonia gas and intense lighting during welding.
- ABB robots ensure consistent product quality.

He Jianfang, trained to be a robot operator when the first ABB robot arrived at Longchuan in 2001. She explains: "With the robot doing the welding, people do not have to be close to the smell of ammonia and the strong lights. This makes my work safer and much easier. ABB has also been making improvements for clients, and the new robot will have a Chinese operation board, which will be much easier to operate."

Guo comments: "An ABB robot works 24 hours a day. The product quality is so consistent that no human worker can compare."

In addition, he says, "a robot greets visitors as soon as they arrive at our workshop, which helps to boost our company image."

Guo says he is particularly pleased with the attention ABB gives his company.

"ABB bears our requests in mind, and their products keep improving," he says. For example, the second robot from ABB featured a raised welding table so that workers did not have to bend down to work. In addition, the working process was shortened. "It takes half the time it did before to complete one product," says Guo. "This means that we can double our productivity without consuming more electricity.

"Other companies produce welding robots and they do have lower prices," he admits, "but we stick with ABB because their product quality is stable and, like us, they continue to make improvements. Plus, their maintenance staff are always ready to help. ☉"