

# Cascade

## Case study: Metal Fabrication

### Applications

- Arc Welding

### Products

- Hydraulic attachments  
for forklift trucks



## Robots are people business

**Back in 1980, ABB installed the first arc welding robots at Cascade Europe. Today, Cascade, which manufactures hydraulic attachments for forklift trucks, has moved forward through several generations of ABB robots.**

> “Robots offer a whole range of advantages,” explains Jan Blom, plant manager at Cascade. “But the bottom line is that without robots, we would never have been able to raise production quality and volume to this level.”

More than 25 years ago, Cascade contacted ABB with its automation requirements. Blom recalls: “We said, ‘This is our product. We manufacture hydraulic attachments such as forks, side shifters, fork positioners and paper roll clamps that are mounted on forklift trucks. How can we best automate production?’ And since that time, ABB has continued to supply us with answers and a whole generation of welding robots, from the S1 right through to the S4, and now the IRB 2400.”

Even in 1980, automation was a necessity at Cascade to reduce costs, to supply better and more constant quality and to produce more, in order to grow. “The trends in our market have made automation even more necessary over the past few years,” Blom explains. “We face competition from lower-wage countries, but we must also meet all the other product requirements. The trend is towards heavier attachments that are capable of lifting greater loads. Electronics are clearly here to stay – for example, the clamping force required in a paper roll clamp is electronically determined – and safety is an essential item. This is reflected in the demand for increased visibility for the forklift truck driver. All these

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Successive generations of ABB robots have been required to carry out ever more complicated welding work for Cascade, says sales manager René Oosthoek (left) who enjoys the challenge.

factors influence the construction requirements and the loads our products must be able to handle. Our clients are also calling for greater integration of the various components we deliver.”

In essence, an industrial robot is a universal, freely programmable manipulator. In this case, the robot in question is a 6-axle ABB robot with its own control box.

At Cascade, one of these robots, the IRB 2400L, is suspended centrally from a Rotating Column (RRC) between two work areas. A 2,000-kilogram manipulator, a programmable IRBP 200SH is installed in each of these work areas to position the product for the welding robot.

**While the robot** is welding a paper roll clamp on one side (itself clamped into the welding mould of the manipulator), the operator adds the finishing touches or places the next product ready for processing. “The robot offers numerous advantages,” Blom explains. “It works

far faster while always maintaining the same heat input. The weld quality is constant, and there is an entire range of health advantages, because the operator is less exposed to radiation and vapors. Because we can achieve far higher production volumes with the robots, we can produce more, with fewer staff. The tasks of the welder have changed. He has now become an operator. Pure welding has been removed from his work package, to be replaced by the programming and operation of the robot. We now operate three production lines, in which the welding robots fulfill a pivotal function.”

The relationship between Cascade and ABB goes far beyond installing a new robot every so often. “ABB carries out periodic maintenance for us, and between us we have agreed on a specified service level,” Blom says. “If anything goes wrong, I can always give them a call. But it is not simply a case of one-way traffic, whereby we ask for a solution and ABB comes up with the ideas. Instead, they constantly keep us up to date on the latest developments and suggest that they might have something for us – for example, the possibility of off-line programming via RobotStudio or logging on to the computer on our robot via the Internet, which can be extremely useful in the event of problems. Of course, Cascade and ABB have a business relationship whereby the quality of their product and the cost play a dominant role, but at the same time, personal contacts are also very important. I know that there are people at ABB who are fully conversant with the ins and outs of Cascade, and I barely have to say a word to them for them to understand and contribute new ideas. I also know they offer continuity, but the most decisive feature is how partners interact together.”

### >FACTS

#### Advantages for Cascade with arc welding robots

- Maintained heat input with constant weld quality.
- Achieves higher production volumes with fewer staff.
- Health advantages for the welders with less exposure to radiation and vapors.
- Enables the increased integration that clients demand.