



A giant in a
compact form.

Handtmann, Germany.

With its Carat 400 Compact, the German company Albert Handtmann Metallgusswerk GmbH & Co. KG is entering the market for large and complex die cast components. The new Carat has been producing parts since the spring of 2010 in the company's factory in Biberach. The track record so far is excellent.

Albert Handtmann Metallgusswerk GmbH & Co. KG is one of Germany's largest aluminum foundries. At its three production sites in Biberach and Annaberg-Buchholz in Germany and in Kosice in Slovakia, Handtmann generates annual sales revenue of 210 million euros with some 1250 employees. Every year, castings with a total weight of 30,000 metric tons are manufactured. The sole metals processed are the light aluminum and magnesium alloys.

Cutting-edge processes.

Handtmann covers the entire range of modern light-alloy casting processes. This enables the most suitable production technology to be chosen for every specific application. With its process engineering innovations, Handtmann continuously sets new standards in the industry. High-tech volume casting using cutting-edge equipment and automated production processes in die casting, permanent mold (gravity die) casting, and the lost-foam process represent the state of the art. In addition to casting, the company also offers machining for finishing the cast components as well as partial or complete



“Everything went just fine. It took the Carat a very short time to achieve full capacity!”

Jürgen Licht, General manager of the Light-alloy Casting unit
Albert Handtmann, Metallgusswerk GmbH & Co. KG

assembly of systems and units. For this purpose, it uses 25 high-speed CNC installations, over 40 CNC machining centers, and various special-purpose machines.

New market.

On its total of more than 60 cold-chamber die casting machines installed in its three factories in Biberach, Annaberg, and Kosice, large volumes of die cast components of aluminum and magnesium are manufactured. Until recently, the largest system had a locking force of 2,500 metric tons. Since this year, Handtmann has been operating a new cold-chamber die casting cell with a locking force of 4,000 metric tons – a Buhler Carat 400 Compact based on two-platen technology and using a real-time-controlled shot unit. This purchase is the company's response to the trend of making larger cast parts that satisfy the most rigorous requirements. “We have thus closed a gap and have entered the market for large and complex components in a targeted manner,” explains Jürgen Licht, general manager of the Handtmann Light-alloy Casting unit.



The die casting specialists of Handtmann.

Handtmann has thus also made a step into a new dimension. But the manufacture of parts with shot weights up to 50 kilograms not merely requires larger machines, but also adjustments in various areas. "Technology, production, die-making, and die maintenance had to be adapted to the new conditions – a real challenge," explains Jürgen Licht.

Total cost of ownership is what counts.

Handtmann has been relying on Buhler solutions since the eighties. "Buhler has always been a good and reliable partner for us up to now," is the opinion that you will hear at Handtmann. "But that was not the crucial point when we decided to buy the new system." The decision was swayed in favor of Buhler, says Licht, when they considered the total cost of ownership. "Not only the purchase price counts, but also the up-time and productivity of the system and the quality of the components manufactured. Such an installation must run with top reliability. The supplier must provide immediate support whenever required and be ready to assist us with services and spare parts. This supply reliability is very important to us, and we believe that Buhler can guarantee it as our partner," says Jürgen Licht praisingly.

But for Handtmann, the "total cost of ownership" also includes the satisfaction of the employees who operate the system day in, day out. He says that casters all have their personal preferences and must be able to handle a production system. It is therefore important to Handtmann that they back the purchase decision. Another important factor was the reduced space requirement. This always comes in as an argument when a new system has to be fit into an existing infrastructure. The new Carat in the factory in Biberach is installed next to six systems of

conventional design with locking forces ranging from 1,600 to 2,500 metric tons. Jürgen Licht: "And the Carat hardly occupies more space than the smaller casting cells, despite its complete range of peripherals such as ladling furnace, die spray robot, extraction robot, marking unit, cutting unit, component cooling system, trimming press, and machining station."

Smooth project implementation.

The new Carat die casting cell went into productive service in the spring of 2010. Close cooperation with the Handtmann technicians enabled smooth installation and start-up of the complex system. Jürgen Licht: "Buhler always did a fine job with all the systems supplied up to now. Things were exactly the same this time around. Installation and start-up took little time and were completed on schedule. The system worked properly right from the start." And Max Beck, in his capacity as the Handtmann Die Casting Technology department manager who accompanied project implementation step by step, adds: "We are really proud of the job that we – Handtmann and Buhler – have accomplished."

Extremely satisfied with performance.

Since then, the new Carat has been fully integrated in production. The system is operated in three work shifts. The two-plate die closing system has proved to be very rugged, and the production process is extremely stable. Jürgen Licht: "The system is really impressive and is running to our full satisfaction." Max Beck and Kay Peters, who as Die Casting department managers at Handtmann work closest with the new Carat, add laughingly: "The system is running so reliably that we can enjoy our weekends without a second thought."

About the Handtmann-Group.

Albert Handtmann Metallgusswerk GmbH & Co. KG is part of Albert Handtmann Holding GmbH & Co. KG. Today's group is made up of six independent business units: Light-alloy Casting, Filling and Portioning Systems, System Engineering, Machining Centers, Plastics Technology, and Systems Technology. The group has some 2500 employees and generates annual sales of almost 500 million euros. Since it was set up in 1873 by Christoph Albert Handtmann, the company has been owned by the Biberach entrepreneur family Handtmann. As a third-generation member, Arthur Handtmann heads the group as chairman of the advisory council. Thomas Handtmann (fourth generation) has headed the group's operating activities since 1998.

Bühler AG

CH-9240 Uzwil, Switzerland
buhlergroup.com/die-casting

T +41 71 955 12 12
die-casting@buhlergroup.com

