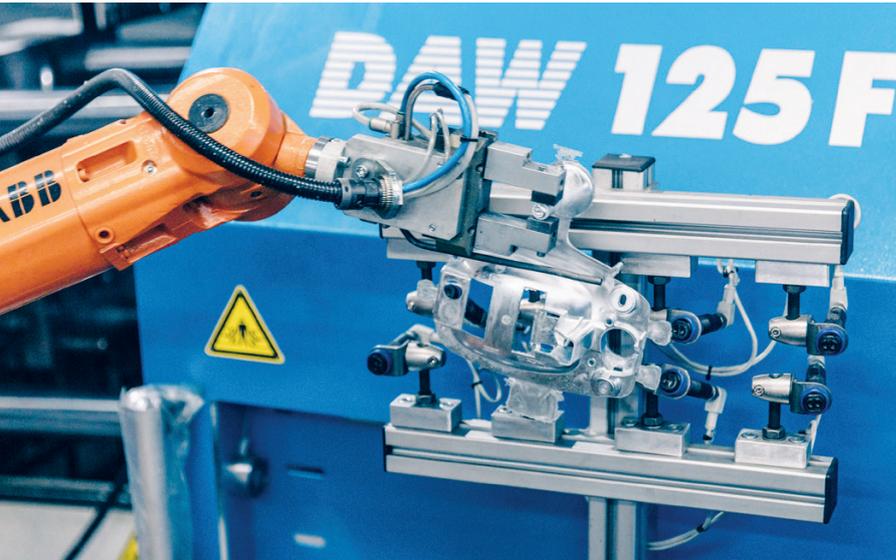


Dynacast Italy

Chooses ABB Robotic Automation to enlarge range



Already a standard, the first automated die casting solution for heavier weight components has been created by the American group.

Dynacast Italy's growth strategy, now expanded to include production of components with more than 150 grams in weight, is demonstrated by the installation of a new traditional Zamac die casting cell equipped with ABB robotics in addition to its multi-slide facilities working at its site in Rho (Milan). The Italian company is part of Dynacast International, a global producer of precision-engineered die-cast metal components made from zinc, aluminium, magnesium and MIM, destined for use in a great variety of industrial sectors. With its headquarters in Charlotte (North Carolina, US) and operating in 23 manufacturing facilities in 16 countries, the group is renowned for its die-casting technology expertise, mould design and manufacture and its production of precision components for a broad range of industrial applications.

Leadership in Die-Casting

Presence in Italy actually hailed from the early 70's but production started in 1986 with the opening of a site in Lainate (Milan). Existing management took over in 1999 and the company moved to a new site at Rho where the product range expanded rapidly.

Today, Dynacast Italy is a leader in the production of small, precision-engineered components in Zama and Beric (Zinc Alloys). Clients submit component designs, Dynacast technicians analyse with 3D modelling and design the mould using die-filling simulation techniques in conjunction with the clients design staff to ensure the very best production solutions.

Die-stamping of small, precision-engineered components with weights of up to 150 grams is usually done with Dynacasts' proprietary Multi-slide technology. The system uses a die with perpendicular slides to produce complex and highly accurate castings. Since 2014 the Italian plant has also introduced traditional die-casting technologies to produce heavier weight components.

The company also supplies a full range of added-value services: finishing, surface treatments, equipment servicing and small component mould assembly kits.

Dynacast Italy is ISO 9001:2000 and ISO TS 16949 certified. The product line serves components used in electronics, electrical engineering, automotive (also for safety systems such as seat belts), fibre-optic connectors, glasses, mechanical engineering, bicycles, hardware and luxury goods. Dynacast Italy continues to grow thanks to its ability to focus on customer demands in addition to supplying export markets.

A Lever for Growth

The desire to seize new growth opportunities also persuaded management to focus upon traditional technology. In line with solutions already adopted by the group, a FRECH hot-chamber die-casting machine was chosen equipped with an ABB model IRB 1410 Robot for automatic mould extraction. ABB supplied the robotic cell 'turn-key'. Upon receipt of the specifications, technicians interfaced with the manufacturers to configure a traditional-type cell with additional improvements. Initial set-up of the robot was done by ABB specialists who then trained Dynacast Italy personnel. Now the customer's staff are fully autonomous and able to re-programme ejections for any type of new product.

Quality, Precision & Speed

The die-casting process takes in many phases from lubrication of the mould to injection of the alloy, with successive cooling of the metal inside the mould, up until the ejection of the casting, all the various operations of which are done sequentially with the help of the robot. The first is a quality control check which if positive gives the machine the OK to continue the process and successively the robot moves the feed head away and separates the moulded component. Thanks to the robot's speed all operations are completed within the working-cycle of the machine itself thereby allowing production wholly in line with the rhythm of the die casting process.

Personnel numbers involved in manning the facility can be reduced as a result of automation. In fact, the solution assures both quality and production continuity simply through allowing more operations within the working cycle.

That part of the plant downstream from the machine was entirely designed by Dynacast Italy with innovative solutions that integrated other component operations with the help of specific automation.

The keys to the project's success on time have been the proximity, expertise and experience of ABB personnel. The new unit has been put to work quickly on new contracts. The solution has strengthened Dynacast Italy's competitiveness enabling it to propose innovative solutions to both Italian and export customers.

