

August 2017, Kottlingbrunn/Austria

## USER REPORT

Fröbel Kunststofftechnik

### **Fröbel – successful with innovative injection molding technology from WITTMANN BATTENFELD**

***Fröbel, based in Blaufelden, Baden-Wuerttemberg, is a synonym among its customers for expertise, quality and absolute reliability. To manufacture its products, Fröbel has been relying on technology from WITTMANN BATTENFELD for more than 50 years.***

Fröbel, a family-owned company in the second and third generation, was established in 1949 for flat glass processing under the name of V+F OHG. The year 1960 marked its entry into the plastics industry with the purchase of a used injection molding machine. The first products the company brought to market were thermometers. In this sector, Fröbel is still active today on a small scale.

The company's current product range is very diversified. The products are delivered to virtually all non-automotive sectors of industry. The company's major customer industries are white goods, the furniture industry, building construction, the installation, packaging and toy industries. Fröbel's product portfolio is just as diversified as its customer base, ranging from individual parts and complete assemblies to finished products. For some customers, the company even handles logistics for deliveries directly to end customers. Typical product examples are thermometer housings, medical stools, brackets, cable reels, glass scrapers, thermos flasks, housings and interior of disinfection units, flush-mounted sockets or packaging for animal food.

Fröbel produces 100 % of the molds for its products in-house. This is the only way to maintain its high quality standards and flexibility, which is appreciated by the company's customers, a major proportion of which are located within a 200 km radius. To meet the market requirements in terms of productivity, Fröbel manufactures its products in batch sizes from 1,000 to 100,000 units. The company with a workforce of 60 processes virtually all engineering plastics, including transparent plastics, plastics with filler content, conductive and anti-static materials, and thermoplastic elastomers.

Apart from the company's quality standards and reliability, Fröbel's customers appreciate above all its cooperation in partnership and its comprehensive service, ranging from new product design to complete series production. Together with its customers, Fröbel generally finds technically and economically feasible solutions even for highly complex components.

36 of the 40 injection molding machines installed at Fröbel, ranging from 150 to 6,000 kN in clamping force, have come from WITTMANN BATTENFELD. The first one was delivered in 1964, the last one earlier this year. The robots, a total of 30, are also from WITTMANN BATTENFELD. The machines delivered most recently are three machines from the *MacroPower* series with 4,000 kN clamping force, and a 2-component machine with 5,000 kN clamping force, which is used, for example, to mold the bottom parts of stools. The compact design of these large machines is very convenient for Fröbel, which has already extended its production area several times. In 2016, its third hall including a new high-bay warehouse was opened. Moreover, the company has installed four machines of the all-electric *EcoPower* series with clamping forces ranging from 550 to 1,100 kN and two machines from the servo-hydraulic *SmartPower* series, a *SmartPower* 120 and a *SmartPower* 350 with the new UNILOG B8 control system. These machines stand out primarily by their high precision and energy efficiency, attributes which are regarded as very important at Fröbel.

For Joachim Fröbel, the company's CEO, the most important qualities of his injection molding machines are, that they offer excellent technology and are simple and easy to operate. "The machines from WITTMANN BATTENFELD have a clear design, and their Windows-based UNILOG control system is easy to understand and to operate", he says. And his son Tobias, who manages the company jointly with his father, adds: "The service from WITTMANN BATTENFELD is also good, which is another very important aspect for us."



**Fig. 1:** New production hall at Fröbel in Blaufelden with machines of the *PowerSeries* from WITTMANN BATTENFELD



**Fig. 2** (from the left): Joachim Fröbel and his son Tobias Fröbel with Erwin Neugebauer from WITTMANN BATTENFELD in front of the *MacroPower COMBIMOULD*



**Fig. 3:** Joachim Fröbel shows Erwin Neugebauer from WITTMANN BATTENFELD the base for a stool manufactured on the 2-component *MacroPower*.



**Fig. 4:** Wavy stool seat



**Fig. 5:** Finished stool made of polypropylene with a rounded 2-component base for controlled free movements



**Fig. 6:** Thermos coffee flasks



**Fig. 7:** Housing of disinfection unit (photo: courtesy of Fröbel GmbH)

## **The WITTMANN Group**

The WITTMANN Group is a worldwide leader in the manufacturing of injection molding machines, robots and peripheral equipment for the plastics industry. Headquartered in Vienna/Austria, the WITTMANN Group consists of two main divisions, WITTMANN BATTENFELD and WITTMANN, which operate 8 production facilities in 5 countries, including more than 33 direct subsidiary offices located in all major plastics markets around the world.

WITTMANN BATTENFELD focuses on independent market growth in the manufacturing of state-of-the art injection molding machines and process technology, providing a modern and comprehensive range of machinery in a modular design that meets the actual and future requirements of the plastic injection molding market.

WITTMANN's product range includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, mold temperature controllers and chillers. With this comprehensive range of peripheral equipment, WITTMANN can provide plastics processors with solutions that cover all production requirements, ranging from autonomous work cells to integrated plant-wide systems.

The syndication of the WITTMANN Group has led to connectivity between all product lines, providing the advantage plastics processors have been looking for in terms of a seamless integration of injection molding machines, automation and auxiliary equipment – all occurring at a progressive rate.

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