

USER REPORT / 客戶報導

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Karl Etzel GmbH, Germany

德國 Karl Etzel GmbH 公司

Energy-efficient machines from WITTMANN BATTENFELD for renowned automotive supplier

威猛巴頓菲爾為知名汽車供應商提供節能機器

For more than 20 years, Karl Etzel GmbH in Mühlacker, Baden-Wuerttemberg / Germany, has been producing high-quality parts for the automotive industry with injection molding machines from WITTMANN BATTENFELD. The newer machines from the PowerSeries score at Etzel primarily with their high energy efficiency.

20 多年來，位於德國巴登 - 符騰堡州 Mühlacker 的 Karl Etzel GmbH 公司一直使用威猛巴頓菲爾德的射出機為汽車行業生產高質量的零件。新款 Power 系列機器的高效能也在 Etzel 公司獲得高迴響。

Karl Etzel GmbH was established by Karl Etzel in 1976. In 1995, Andreas Schürle and Rainer Bauer took over the company; Andreas Schürle has been the sole proprietor of Karl Etzel GmbH since 2000. At its location in Mühlacker, the company manufactures parts from all common thermoplastic materials with about 300 employees on 30,000 m² of production space with currently 128 injection molding machines ranging from 150 to 20,000 kN in clamping force. Between 50 and 60 tons of granulate are processed daily, in part with up to 50% fiberglass content. More than two thirds of the products are parts for the automotive industry, primarily components for vehicle interiors. The remainder goes to the medical industry, the electronics industry and building construction. The company's customer base includes famous brands such as Daimler, Lear, Greiner, Johnson Controls and Kärcher.

Karl Etzel GmbH 於 1976 年由 Karl Etzel 創立。1995 年，Andreas Schürle 和 Rainer Bauer 接管了公司。自 2000 年以來，Andreas Schürle 一直是 Karl Etzel GmbH 的獨資經營者。該公司位於 Mühlacker，生產各種普通熱塑性材料的零件，在 30,000 平方米的生產空間擁有約 300 名員工，目前有 128 台射出機，鎖模力由 150 到 2,000 噸不等。每天處理 50 至 60 噸原料，原料玻璃纖維含量高達 50%。超過三分之二的產品是汽車行業的零部件，主要是汽車內飾部件，其餘的則用於醫療行業、電子行業和建築施工。該公司的客戶群包括著名品牌，如 Daimler, Lear, Greiner, Johnson Controls and Kärcher。

The company is certified according to the IATF 1949:2016 automobile standard and supports its customers from the initial idea to series production. In addition to conventional injection molding, it offers 2-component injection molding, lightweight technology,

component assembly, direct lasering of plastics surfaces as well as painting, flocking and chrome plating in long-standing cooperation with partners.

該公司已通過 IATF 1949：2016 汽車標準認證及支持，並從最初的客製化產品到批量生產。除了傳統的射出成型外，它還與合作夥伴長期合作，提供雙成分射出成型、輕量化技術、組件裝配、塑料表面直接激光以及塗裝、植絨和鍍鉻。

According to the company's proprietor and CEO Andreas Schürle, the success of Karl Etzel GmbH is based on the high quality of its products and service, as well as on the good cooperation with its customers. As Andreas Schürle explains: "The entire package must be a perfect fit, from the products and logistics all the way to personal customer support."

根據該公司擁有人兼首席執行官 AndreasSchürle 介紹，Karl Etzel GmbH 的成功基於其高質量的產品和服務以及與客戶的良好合作。正如 AndreasSchürle 所說：“從產品和物流到個人客戶支持，整體配套必須完美契合。”

Stability and reliability of deliveries are vital success factors above all in the automotive industry. Consequently, Etzel's most important requirement for an injection molding machine is stable and trouble-free operation. In addition, Andreas Schürle attaches very great importance to environmentally compatible production and saving resources. Of the 128 injection molding machines currently installed at Karl Etzel GmbH, just under 90 are from WITTMANN BATTENFELD. The most recently constructed hall 7 is equipped exclusively with large machines from the *MacroPower* series and machines from the servo-hydraulic *SmartPower* series with clamping forces ranging from 3,500 to 20,000 kN, some of which are multi-component models. The first large multi-component machine from the *MacroPower* series with 20,000 kN clamping force manufactured by WITTMANN BATTENFELD, a *MacroPower* 2000/12800H/350L, was delivered to Karl Etzel GmbH at the beginning of 2018. Meanwhile, Karl Etzel GmbH has installed a second machine with 20,000 kN clamping force from WITTMANN BATTENFELD as well.

交付穩定性和可靠性產品是汽車行業最重要的成功因素。因此，Etzel 對射出機最重要的要求是穩定且無故障生產。此外，AndreasSchürle 非常重視環保生產和節約資源。在目前安裝在 Karl Etzel GmbH 的 128 台射出機中，90 多台來自威猛巴頓菲爾。最近建造的 7 號廠區專門配備了 MacroPower 系列的大型機器和伺服液壓 SmartPower 系列的機器，鎖模力範圍從 350 到 2,000 噸，其中一些是多組件型號。MacroPower 系列的第一台大型多組件機器，由威猛巴頓菲爾製造，具有 2,000 噸的鎖模力，一台 MacroPower 2000 / 12800H / 350L，於 2018 年初交付給 Karl Etzel GmbH。同時，Karl Etzel GmbH 安裝了第二台來自威猛巴頓菲爾的鎖模力為 2000 噸的機台。

Besides multi-component technology, the CELLMOULD® foam injection molding process to make light-weight parts is also used at Etzel. This technology is a process developed by WITTMANN BATTENFELD for the production of structured foam parts by direct gas injection with a physical foaming agent. Structured foam parts feature a compact shell and a foamed core. With CELLMOULD® light-weight technology, extremely light molded parts can be produced with high rigidity and without sink marks. This makes these parts

interesting above all for the automotive industry, where both quality standards and weight play an important part. The entire machine technology for this process, including the plasticizing barrel unit, injectors, gas regulator and gas generator, has been developed and produced by WITTMANN BATTENFELD.

除了多組分異材結合技術外，Etzel 還採用 CELLMOULD®微發泡注塑工藝生產輕質量部件。該技術是威猛巴頓菲爾開發的一種工藝，用於通過直接氣體注入物理發泡生產結構化部件。結構化微發泡部件具有緊湊的外殼和微發泡芯。採用 CELLMOULD®輕質技術，可生產極輕的模塑部件，具有高剛性且無凹痕。這使得這些部件最重要的是汽車行業，其中質量標準和重量都起著重要作用。威猛巴頓菲爾開發並生產了該工藝的整個機器技術，包括塑化螺桿裝置、射出嘴裝置、氣體調節器和氮氣發生器及增壓機。

What Andreas Schürle appreciates about the compact injection molding machines from WITTMANN BATTENFELD apart from their high quality is primarily their low energy consumption. Comparative energy consumption measurements carried out at Etzel on machines of other brands have confirmed that in this respect the machines from WITTMANN BATTENFELD are on a high level and distinguish themselves from competitors' products. Andreas Schürle shows himself just as much satisfied with the cooperation with WITTMANN BATTENFELD, which has now lasted for more than 20 years, as with the company's machines and technologies, saying: "Just like to our customers, the overall package is important to us, too, and here we have found a partner in WITTMANN BATTENFELD where this package meets our requirements in every respect."

AndreasSchürle 對於威猛巴頓菲爾射出機的評價，除了高品質及低保養需求外並主要對於低能耗這優點表示讚賞。Etzel 在其他品牌的機器上進行了能耗測量的比較及證實，在這方面，威猛巴頓菲爾的機器處於高水平，並從競爭對手的產品中脫穎而出。AndreasSchürle 表示非常滿意與威猛巴頓菲爾公司的合作，WITTMANN BATTENFELD 已經持續了 20 多年，與公司的機器和技術一樣，客戶說道：“就像我們的客戶一樣，整體配套過程對我們很重要，我們在 WITTMANN BATTENFELD 找到了適合的合作夥伴，這個整體配套在各方面都符合我們的要求。”



Fig. 1: from the left: Andreas Schürle, Owner-Manager of Karl Etzel GmbH with Erwin Neugebauer, Sales WITTMANN BATTENFELD Deutschland GmbH (Photo: WITTMANN BATTENFELD)

圖 1：左起：Karl Etzel GmbH 的擁有者-經理 AndreasSchürle 與 WITTMANN BATTENFELD Deutschland GmbH 業務 Erwin Neugebauer (照片：WITTMANN BATTENFELD)

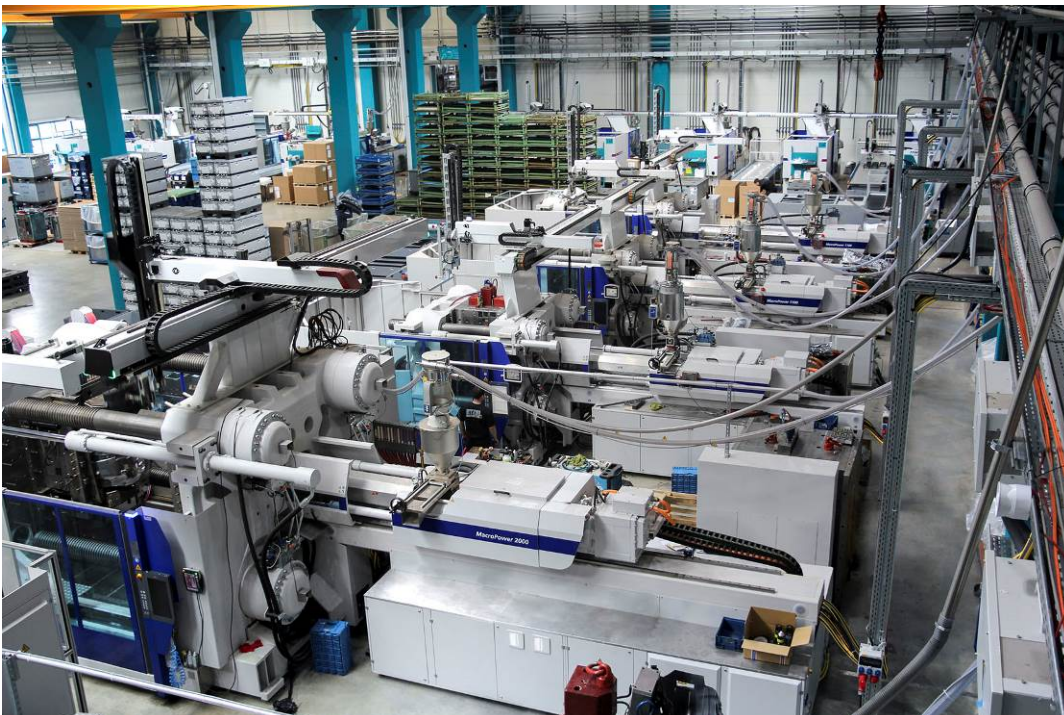


Fig. 2: Hall 7 equipped with machines from the MacroPower and SmartPower series from WITTMANN BATTENFELD (Photo: WITTMANN BATTENFELD)

圖 2：7 號館配備了 MacroPower 射出機和 WITTMANN BATTENFELD 的 SmartPower 系列射出機 (照片：WITTMANN BATTENFELD)



Fig. 3: Servo-electric screw drive on a *MacroPower 2000* (Photo: WITTMANN BATTENFELD)
圖 3：MacroPower 2000 上的伺服電動驅動螺桿（照片：WITTMANN BATTENFELD）



Fig. 4: Removal and depositing of a wheel arch liner by a WX173 robot from WITTMANN (Photo: WITTMANN BATTENFELD)
圖 4：WITTMANN 的 WX173 機器手取出汽車部品（照片：WITTMANN BATTENFELD）



Fig. 5: Loading sill cover (Photo: WITTMANN BATTENFELD)
圖 5：裝載門檻罩（照片：WITTMANN BATTENFELD）



Fig. 6: Support for a passenger car center console (Photo: WITTMANN BATTENFELD)
圖 6：車用中控台支撐架（照片：WITTMANN BATTENFELD）



Fig. 7: Storage compartment for passenger car (Photo: WITTMANN BATTENFELD)
圖 7：車用儲物箱（照片：WITTMANN BATTENFELD）

The WITTMANN Group

The WITTMANN Group is a worldwide leader in the production of injection molding machines, robots and peripheral equipment for the plastics processing industry, headquartered in Vienna/Austria and consisting of two main divisions: WITTMANN BATTENFELD and WITTMANN. They jointly operate the companies of the group with eight production plants in five countries, and its additional sales and service companies are active with 34 facilities on all important plastics markets around the world.

WITTMANN BATTENFELD pursues the further expansion of its market position as an injection molding machine manufacturer and specialist for state-of-the-art process technologies. As a supplier of comprehensive, modern machine technology in modular design, the company meets both present and future market demands for plastics injection molding equipment.

The WITTMANN product portfolio includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and chillers. With this diversified range of peripheral units, WITTMANN offers plastics processors solutions to cover all production requirements, ranging from independent production cells to integrated plant-wide systems.

The syndication of the various segments under the umbrella of the WITTMANN Group has led to complete connectivity between the various product lines, for the benefit of plastics processors with an increasing demand for seamless integration of processing machinery with automation and peripherals.

威猛集團

威猛集團是塑料行業中製造射出機、機械手和周邊設備的全球領航者。威猛集團總部設在維也納/奧地利，由兩個主要部門，威猛巴頓和威猛組成，他們共同經營集團旗下分公司，在全球 5 個國家設有 8 個生產工廠，其中超過 34 個直屬子公司位於世界各大塑料市場，並各自負責該區域的銷售及售後服務。

威猛巴頓致力於製造最先進的射出機和工藝技術的獨立市場增長，提供現代化和全面的機械模組化設計，滿足塑料射出成型的實際和未來要求。

威猛的產品系列包括機械手和自動化系統，中央供料系統，除濕乾燥機，秤重式和體積式的計量機，粉碎機，模具溫度控制器和冷卻器。憑藉這種全面的周邊設備，威猛可為塑料加工商提供涵蓋所有生產要求的解決方案，從自主工作單元到整個工廠範圍的系統。

威猛集團的結合已經使所有產品線連接為一體，提供塑料加工商在射出機、自動化和輔助設備的無縫接軌，為塑料加工廠帶來了益處，對加工機械與自動化和外圍設備的無縫集成日益增長。

更多信息可參訪我們的網站 www.wittmann-group.tw