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WITTMANN BATTENFELD at the Compamed in Düsseldorf

威猛巴頓菲爾集團在杜塞爾多夫 Compamed 展出

Liquid silicone injection molding of micro parts

液態矽膠射出成型的微小型零件

At the Compamed, the international trade fair for the medical manufacturing supplier market and product development held in Düsseldorf from 15 to 18 November 2021, WITTMANN BATTENFELD will produce a micro support ring with a silicone membrane in hall 14, booth A 20 to demonstrate its expertise in the field of liquid silicone processing.
在 2021 年 11 月 15 日至 18 日於杜塞爾多夫舉行的醫療製造供應商市場和產品開發的國際展會 **Compamed** 上，威猛巴頓菲爾集團將在 14 號展廳 A20 號展為上生產一個帶有矽膠膜的微型支撐環，以展示其在液態矽膠加工領域的專業技術。

Laying out injection molding machines for liquid silicone processing has a long tradition at WITTMANN BATTENFELD. This type of technology has been used for many years not only on conventional machines, but also on the *MicroPower*, a machine specially designed for micro parts injection molding.

威猛巴頓菲爾集團在為液態矽膠加工的射出機布局上有著悠久的歷史。這種技術不僅在傳統機器上使用了多年，而且還在 *MicroPower* 上累積多年技術，這是一種專門為微型零件射出成型而設計的機器。

On this machine, thermally homogeneous melt is injected via a two-step screw-and-plunger injection unit, with shot volumes ranging from just a few mm³ to 4 cm³. In this way, it has become possible to make top-quality parts in an absolutely stable production process and with short cycle times.

在這台機器上，熱均勻的熔體通過一個兩步伐螺桿和柱塞注射裝置進行注射，射出量從幾 mm³ 到 4 cm³ 不等。如此一來，就有可在絕對穩定的生產過程中，以較短的週期時間，製造出頂級質量的零件。

The multi-component version of the *MicroPower*, known as *MicroPower COMBIMOULD*, is equipped with two horizontally positioned injection aggregates and a rotary disk integrated in the machine. The rotary disk takes care of turning the part towards the second injection unit and back. The machine is also laid out for clean-room injection molding. Its rotary disk is completely encapsulated. All connections for heating aggregates, temperature sensors, water tempering, core pull pneumatics and sensors, as well as the blow-through valve, are installed close to the rotary disk. The resulting short connection lines to the mold enhance the machine's user friendliness. *MicroPower* 的多組成份版本，被稱為 *MicroPower COMBIMOULD*，配備了兩個水平的射出裝置和一個整合在機器中的轉盤。轉盤負責將零件轉向第二個射出單元並返回。這台機器也是為無塵室射出成型而設計的。它的轉盤是完全密封的。所有用於加熱裝置、溫度傳感器、水溫、抽芯氣動裝置

和傳感器的連接，以及吹氣閥，都安裝在轉盤附近。由此產生的與模具的短連接線增強了機器的用戶友好性。

At the Compamed, WITTMANN BATTENFELD will demonstrate its know-how in the field of LSR processing in micro part production by manufacturing a support ring with a silicone membrane from PC and LSR on a *MicroPower 15/10H/10H COMBIMOULD*. The materials to be used for this purpose are polycarbonate (Macrolon) from Covestro and a self-adhesive LSR (Silopren) supplied by Momentive. The mold has been constructed in co-operation with Nexus. The LSR metering device actually comes from Nexus and is equipped with a new Servomix liquid dosing unit for LSR with an OPC-UA interface (Euomap 82.3).

在 Compamed 展場上，威猛巴頓菲爾集團將通過在 *MicroPower 15/10H/10H COMBIMOD* 上用 PC 和 LSR 製作出帶矽膠膜的支撐環產品來展示其在微型零件生產中的 LSR 加工技術。用於此目的的材料是 Covestro 公司的聚碳酸酯(Macrolon)和 Momentive 公司提供的自黏性 LSR(Silopren)。模具是與 Nexus 公司合作建造的。LSR 的計量裝置實際上來自 Nexus，配備了用於 LSR 的新型 Servomix 液體計量裝置，帶有 OPC-UA 接口(Euomap 82.3)。



Fig. 1: MicroPower 15/10H/10H COMBIMOULD with liquid dosing unit for LSR
 圖: MicroPower 15/10H/10H COMBIMOULD 帶有用於 LSR 的液體計量裝置

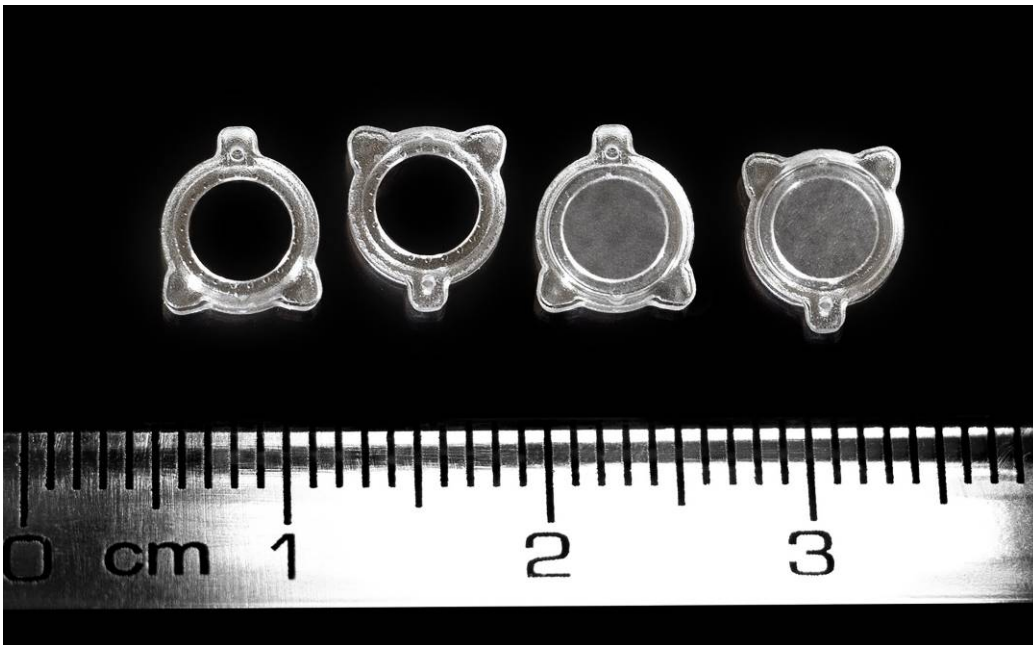


Fig. 2: Support ring with silicone membrane made of PC and LSR
 圖: 帶有由 PC 和 LSR 製成的矽膠模的支撐環

The WITTMANN Group

The WITTMANN Group is a globally leading manufacturer of injection molding machines, robots and auxiliary equipment for processing a great variety of plasticizable materials – both plastic and non-plastic. The group of companies has its headquarters in Vienna, Austria and consists of two main divisions: WITTMANN BATTENFELD and WITTMANN. Following the principles of environmental protection, conservation of resources and circular economy, the WITTMANN Group engages in state-of-the-art process technology for maximum energy efficiency in injection molding, and in processing standard materials and materials with a high content of recyclates and renewable raw materials. The products of the WITTMANN Group are designed for horizontal and vertical integration into a Smart Factory and can be interlinked to form an intelligent production cell.

The companies of the group jointly operate eight production plants in five countries, and the additional sales companies at their 34 different locations are present in all major industrial markets around the world.

WITTMANN BATTENFELD pursues the continued strengthening of its market position as a manufacturer of injection molding machines and supplier of comprehensive modern machine technology in modular design. The product range of WITTMANN includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and chillers. The combination of the individual areas under the umbrella of the WITTMANN Group enables perfect integration – to the advantage of injection molding processors with an increasing demand for seamless interlocking of processing machines, automation and auxiliaries.

威猛集團

威猛集團是一家全球領先的射出機、機械手和周邊設備的製造商，用於加工各種可塑材料(包括塑膠和非塑膠)。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。遵循環境保護、節約資源和循環經濟的原則，威猛集團從事最先進的工藝技術，以實現射出成型的最大能源效率，並加工標準材料和含有高含量回收物和可再生原材料的材料。威猛集團的產品是為橫向和縱向整合到智能工廠而設計的，並且可以互相連接，形成一個智能生產單元。

威猛集團在全球5個國家設有8個生產工廠，另外在34個直屬子公司在全球所有主要工業市場都有銷售。

威猛巴頓作為射出成型機製造商和模塊化設計的綜合現代機械技術供應商，追求持續加強其市場地位。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。威猛集團旗下各個領域的組合實現了完美的整合——這對於加工機械、自動化和輔助設備的無縫連鎖需求日益增長的射出加工企業來說是有利的。

更多信息可參訪我們的網站 www.wittmann-group.tw

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