

CARD – Overview of new functions

威猛新型壓縮空氣乾燥機 CARD – 功能概述

CARD (Compressed Air Resin Dryer) is the name of the new compressed air granulate dryers from WITTMANN. They offer to injection molders an efficient solution to achieve optimal drying results even with small material throughput rates – as low as just 0.16 kg/h. Various functions such as the **SLEEP** mode, the **RAMPEN** mode, the **COUNT DOWN** mode and the **POWER** mode support the production process and ensure adequate as well as gentle and energy-efficient drying.

CARD (Compressed Air Resin Dryer) 是威猛新型壓縮空氣乾燥機的名稱。威猛為注塑商提供了一種有效的解決方案，即使材料吞吐率小（僅為 0.16 kg / h），也能達到最佳乾燥效果。**SLEEP**（睡眠）模式，**RAMPEN** 模式，**COUNT DOWN**（倒數）模式和 **POWER**（電源）模式等各種功能支持生產過程，並確保充分、溫和且節能的乾燥。



**CARD 3G/FIT with touch operation panel,
formulation memory and alarm light.**
帶有觸摸操作面板，配方儲存器和警報燈的 **CARD 3G / FIT**。

Users of dryers expect carefree use of the equipment, with the operator's job being more or less limited to filling the drying container and pressing the start/stop button, and everything else should ideally proceed in the background. This is precisely how the granulate dryers from WITTMANN work.

乾燥機的用戶期望設備能使用得無憂無慮，操作員的工作僅局限於填充乾燥容器並按下“開始/停止”按鈕，其他所有操作最好都能在後台進行。這正是威猛的乾燥機的工作方式。

Whenever an unintended standstill of a production cell occurs, the aim of every user is to resume production as fast as possible. Here, the main focus always lies on the injection molding machine and the automation system. Usually the granulate dryer tends to be

overlooked, which often means continued drying of the material with full heating capacity during the downtime and new startup. The consequence is not only that an unnecessary amount of energy is consumed, but also that the plastic material can be damaged. With the **CARD** compressed air granulate dryers from WITTMANN, this is prevented by what is called the **SLEEP** mode.

每當生產單元出現意外停機時，每個用戶的目的就是盡可能快地恢復生產。在此，主要重點始終放在注塑機和自動化系統上。通常，顆粒乾燥器容易被忽視，這通常意味著在停機和重新啟動期間以最大的加熱能力持續乾燥物料，不僅是消耗了不必要的能量，而且還損壞了塑料。使用威猛的 **CARD** 壓縮空氣乾燥機，可以通過所謂的 **SLEEP** “睡眠”模式來防止這種情況。

Automatic filling of the drying container proceeds directly proportional to the machine's material consumption. While no material is extracted from the dryer, i.e. the drying container does not need to be refilled. In this case, the dryer's control system registers the fact that the material loader used for filling the container has not shown any activity for a certain period of time. This period can be set on the **CARD** dryer (depending on the model). Then the dryer automatically reduces the heat output and quantity of air supply. This immediately protects the material and reduces the consumption of electricity and compressed air. As soon as the processing machine is restarted, it can continue to operate at once with dried material. The dryer starts to regulate the drying process at the right moment and raises the drying temperature as required. 自動填充乾燥桶與機器的材料消耗成正比。雖然沒有材料從乾燥機中抽出，即乾燥桶不需要重新裝滿。在這種情況下，乾燥機的控制系統會記錄以下事實：用於填充容器的物料裝載器在一段時間內未顯示任何活動。可以在 **CARD** 乾燥機上設置該時間（取決於型號）。然後，乾燥機自動降低熱量輸出和空氣供應量。這樣可以立即保護材料並減少電力和壓縮空氣的消耗。一旦重新啟動處理機，就可以立即使用乾燥的物料繼續運行。乾燥機會在適當的時候開始調節乾燥過程，並根據需要提高乾燥溫度。

The **RAMPEN** mode permits unlimited drying of sensitive materials, too, which tend to get sticky when heated. Here, the drying temperature is raised in two steps. If, for example, PC is to be dried, the material can be pre-dried at 80 °C for about 75 min following initial filling of the container, and subsequently the drying process can be continued at the desired temperature of 120 °C. In this way the material, which is mostly stored at room temperature or in cooler storage halls, can be gently preheated at the first fill, before being completely dried at the target temperature.

RAMPEN 模式還允許無限制地乾燥敏感材料，這些材料在加熱時會變粘。在此，乾燥溫度分兩步驟升高。例如，如果要乾燥 PC，可以在最初填充容器後將材料在 80°C 的溫度下預乾燥約 75 分鐘，隨後可以在所需的 120°C 的溫度下繼續乾燥過程。這樣，通常在室溫下或在較涼的儲藏室中存儲的材料可以在第一次填充時輕輕地預熱，然後在目標溫度下完全乾燥。

The **COUNT DOWN** mode provides a signal output, which can be used for a machine startup. When production is started on a processing machine, it is very often important to know how long the material drying equipment has already been active and whether the material has been dried sufficiently. The **COUNT DOWN** mode shows the time which has already elapsed on its display panel and finally issues a signal when the preset period of time is over.

COUNT DOWN (倒數) 模式提供信號輸出，可用於機器啟動。在加工機上開始生產時，非常重要的是要知道物料乾燥設備已經啟用了多長時間以及物料是否已經充分乾燥。**COUNT DOWN** (倒數) 模式在其顯示面板上顯示已經過去的時間，並在預設時間段結束後最終發出信號。

Depending on the model, the air quantity regulation in **CARD** dryers is controlled in an analog or digital form via the temperature. Here, digital control provides a higher degree of precision, and the correct value for the temperature range to suit the material can be stored in the control system. For strongly hygroscopic materials such as PA, this automatic air supply control can be deactivated. This function is called the **POWER** mode, which permits a constant drying process with the necessary quantity of compressed air.

根據型號，可通過溫度以模擬或數字形式控制 **CARD** 乾燥機中的空氣量調節。在此，數字控制可提供更高的精度，並且可以在控制系統中存儲適合材料的溫度範圍的正確值。對於強吸濕性材料（例如 PA），可以禁用此自動供氣控制。此功能稱為 **POWER** (電源) 模式，該模式允許使用必要量的壓縮空氣進行恆定的乾燥過程。

These innovative functions of the **CARD** dryers from WITTMANN not only contribute to energy efficiency, but also provide a gentle drying process to protect the material.

威猛 **CARD** 乾燥機的這些創新功能不僅有助於提高能源效率，而且還提供了柔和的乾燥過程以保護物料。

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. These two divisions jointly operate the companies of the WITTMANN Group with eight production plants in five countries. Additional sales and service companies are active in 34 facilities in 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 plastic processing 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 integration of these various segments under the umbrella of the WITTMANN Group has led to complete connectivity between the various product lines. This integration has greatly benefited plastics processing users, who are increasingly looking for seamless production, including automation and peripheral functions.

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。

在威猛集團的領導下，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。

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