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Lightweight Construction / Aviation / Boat Building / Wind Power / Plastics Technology / Metering and Mixing Technology / Construction

LAMINATING LIGHTWEIGHT COMPONENTS QUICKLY AND SAFELY

TARTLER offers compact systems for small-volume application of synthetic resins

The lamination of fiber composite woven fabrics is a key shaping and joining process used in aviation, yacht construction and the manufacture of drones. Of central importance here is the reliable metering, mixing and application of the polyurethane and epoxy resins required to consolidate the fabric films. The 2C processing systems of the MDM series from TARTLER have been specifically developed for this task. Depending on the design, they are suitable for the manual or semi-automated production of laminated lightweight components for ultralight aircraft, boat hulls and drone bodies.

Michelstadt, September 2021. – In addition to the growing demand for small wind turbines, the boom in yacht building, the soaring popularity of ultra-light aircraft and the rapidly increasing demand for drones



Enables the entry into the equipment-supported laminating technology: The MDM 3 from TARTLER has an electric dosing pump and allows the processing of liquid 2-component synthetic resins with a mixing ratio of 100:100.

are opening up many new applications for laminating technology. The shaping and joining process is a crucial prerequisite for the production of lightweight fiber composite components for boat hulls, aircraft bodies, drone housings and rotor blades. Highly accurate and homogeneous metering, mixing and application of the polyurethane and epoxy resins required for impregnating and consolidating fiber composite fabric films is essential for the reliable and economical application of laminating technology. TARTLER has developed the devices and machines of the MDM series with the aim of enabling manufacturers and plastics processors to produce high-quality floor and deck laminates. These two-component systems, which are designed for small-volume applications, are currently available in four variants and offer a wealth of options for optimizing processes in manual and semi-automated laminating technology.

Space-saving entry-level system

With the MDM 3, TARTLER provides the perfect entry-level system for equipment-assisted laminating technology. This compact dosing and mixing system already has an electric dosing pump and container connections for easy integration of the original containers supplied by the material manufacturers. Designed for the efficient processing of liquid 2-component synthetic resins, it achieves a material output of up to 0.7 l/min at a mixing ratio of 100:100. In practical operation, the output quantity depends on the viscosities, the mixing ratios and the hose lengths (1.5 - 5.0 m). Only a 220 V



MDM 4 from TARTLER can be adjusted to output rates from 50 to 800 ml/min by using different pump combinations and depending on the mixing ratio and viscosity of the components.

connection is required for commissioning the MDM 3; an external compressed air supply is not provided.

The compact MDM 4 tabletop unit allows the user to take the step from manual to mechanical dosing, mixing and application. The system can be adjusted to output rates from 50 to 800 ml/min by using different pump combinations and depending on the mixing ratio and viscosity of the components. It is suitable for the realization of dosing ratios from 100:10 to 10:100, whereby the output can be adjusted via a potentiometer. The MDM 4 uses a compact LC 0/2 from TARTLER as mixing head. Its rotating one-way mixer is driven by a frequency-controlled electric motor via a flexible shaft. For the containers for the A and B components, the user can choose between containers with volumes of 0.5 to 100 liters. The MDM 4 also requires only a 220 V connection for commissioning.

Higher output, more functions

For plastics processors who require variable output rates of 0.05 to 1.5 l/min in lamination technology and



For users who require variable output rates of 0.05 to 1.5 l/min within the scope of lamination technology, TARTLER offers the MDM 5. It can be used stationary or mobile and allows the liquid PU and epoxy resins to be applied by pouring, spraying or foaming.

want more equipment functions, TARTLER recommends its MDM 5. This system can be used both stationary and mobile and allows the liquid polyurethane and epoxy resins to be applied by pouring, spraying or foaming. The Siemens Logo control offers numerous practical features such as pre-selection of the firing time, a pot life alarm and much more. The MDM 5 can also be equipped with different sized containers, electric agitators and various heaters for containers, hoses and mixing head. Also of special note: It can be equipped with different mixing heads from the large TARTLER range! In addition to the 220 V mains connection, the MDM 5 requires a compressed air connection (6-8 bar).

The MDM 6 is the top model in TARTLER's compact system series. It can also be used both stationary and mobile, and is designed for outputs of up to 3.5 l/min. In addition to numerous other features and functions, its control system also offers the possibility of performing small and large recirculation of the components. The MDM 6 is also suitable for pouring, spraying and foaming. It can be operated with containers with volumes from 3.0 l to 100 l.

Would you like a little more?

With the systems of its MDM series, TARTLER offers four innovative solutions for dosing, mixing and applying small quantities of liquid polyurethane and epoxy resins in the context of laminating technology. Since all units are also integrated into the modular range of the German plant manufacturer, they can be optimally adapted to changing requirements with numerous add-on components – for example, with chassis, refill kits, and heating and degassing systems. In addition, TARTLER supports its customers through the entire journey to next level of mechanical and finally automated resin processing.



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TARTLER GmbH and TARTLER GROUP:

Dosing, mixing and filling systems for multi-component synthetic resins

Founded in 1981, TARTLER GmbH is a medium-sized family business with headquarters in Michelstadt in the Odenwald region of Hesse, Germany. Since 2018 it has been led by Udo Tartler and Sandra Tartler-Herbst. It is part of the TARTLER group of companies, which also includes ETP Walther GmbH, ZT Odenwald GmbH and SOMATA GmbH. In 2020, the TARTLER GROUP generated a total turnover of around 14.5 million euros and currently has a headcount of 80 employees.

In cooperation with material manufacturers, TARTLER develops and produces modern single and multi-component dosing and mixing systems for polyurethane epoxy resin and silicone processing tailored to customer requirements. One of the company's special competencies is the realization of tailor-made so-

lutions, such as special systems for processing pastes and synthetic resins with unusually large differences in viscosity or extreme mixing ratios. Two in-house developments are also worth mentioning: the dynamic static mixer (rotating disposable plastic mixer), which eliminates the use of environmentally harmful rinsing agents, as well as universally usable, very compact mixing head versions without dead spaces. Since 2016, the company has also been implementing innovative vacuum-assisted drum changing and filling stations for air-free material handling.

In addition to the installation and commissioning of machines, TARTLER's service also includes the instruction and training of the customer's employees and their support during the entire period of use of the machine. In 2013, the

company commissioned its new main plant in Michelstadt, which combines all process stages from development to final acceptance under one roof. Here the mixing plants are also linked to handling systems. This means that customers can be offered process-based dosing, mixing and filling equipment together with downstream CNC application systems, robots, winding systems, vacuum chambers or presses.

TARTLER's customers include well-known companies from the aerospace, automotive and boat building industries as well as model and mold making. Users in the wind power, electrical and consumer goods industries are also among the customers of TARTLER's two- and multi-component dosing and mixing systems as well as filling systems.

Note for editors: text and photos are available at www.pr-box.de/



Further information about the MDM series and processing of small quantities can be found on our website:

- ▶ <https://mdm-serie.tartler.com/en/>
- ▶ <https://www.tartler.com/en/products/mdm-series/>



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