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Plastics Technology / Dosing and Mixing Technology / Fluid Technology / Material Handling / Resource Conservation

## RESOURCE-SAVING DOSING AND MIXING OF SYNTHETIC RESINS

**TARTLER offers complete solutions for silicone, adhesive and gelcoat processing**

*The TAVA F degassing station from SOMATA, a subsidiary of TARTLER GROUP, is an innovative solution for the cost-effective and resource-saving handling of pasty and liquid media. As part of a modular and expandable solution, it is a system component to the Tartler TARDOSIL series of multi-component metering, mixing and application systems. Users in silicone, adhesive and gelcoat processing in particular can significantly optimize material use improve process reliability.*

Depending on the configuration, a TARDOSIL system can discharge up to 30 liters of ready-to-use material per minute. The mixing ratios can be set manually or self-regulating. The viscosity of the A component can be 60,000 mPas and higher; the viscosity of the B component can be between 1.0 and 60,000 mPas. A TARDOSIL is always equipped with a follower plate for high viscosity resin components, which takes the material directly from a cylindrical container; for the hardener

**Michelstadt, October 2021.** – The dosing, mixing and application systems of the TARDOSIL series from Tartler are designed for processing pasty synthetic resins and liquid hardeners made of silicone, polyurethane and epoxy. Their main areas of application include the production of silicone casting molds, adhesives and gel coatings such as those required in model making, aircraft construction, wind power engineering and medical technology. In combination with Tartler's disposable plastic rotary mixers, they enable the dynamic mixing of several components, which leads to very high-quality mixing results – no matter how great the differences in viscosities or mixing ratios.



Silicone, adhesive and gelcoat processors using a TARDOSIL (right) with TAVA F (left) can free liquid and paste-like material residues from interfering moisture and feed them back into the processing cycle. Significant savings in material purchasing can be achieved by this process.

component it can be equipped with tanks from 3.0 to 200 liters. Depending on customer requirements, it can be equipped with a conventional user interface or a modern touch panel control. In addition, Tartler offers numerous modules for function expansion and process optimization. These include volume flow control, automatic refilling, heating, a melting unit, a dedicated drive or coupling system and a stationary or mobile frame.

### Significantly reduced material costs

As a special highlight for the modular extension of the TARDOSIL plants, Tartler now also offers the TAVA F degassing station from the range of SOMATA, a subsidiary of the TARTLER GROUP. This vacuum-based system enables silicone, adhesive and gelcoat processors to carry out the necessary filling and transfer processes around the TARDOSIL in an extremely resource-saving, waste-free and cost-reducing manner. Especially in plants where larger quantities of high- and low-viscosity fluids are processed, the TAVA F leads to a considerable reduction in material costs and a significant improvement in the life cycle assessment of the processing operations. The key reason: Thanks to the degassing station, significant quantities of pure material residues from opened barrels, from test runs or from the set-up phase no longer have to be rejected and disposed of, but can be reused.

On the basis of numerous practical analyses, Tartler engineers were able to document that even when barrels are properly emptied, considerable residual quantities still remain in the plastic inliner or in the barrel – clearly visible after each barrel change in the metering and mixing system. In addition, in many places there are several



Even when barrels are properly emptied, up to 14 kg of synthetic resin residue remains in their foil bag (inliner). With the TAVA F, they can be reprocessed and fed back into the silicone, adhesive or gelcoat processing process.

kilograms of as-new material from the quality control of the mixing ratios as well as other „waste“ from flushing, surpluses and ancillary work. However, due to the numerous air chambers and bubbles, including moisture, that form in the material when these residual quantities are transferred and filled into the usual barrels, it is not yet possible to return the residual material to production. This is because the entry of the disturbing moisture into the pump of the dosing and mixing plant during the removal, conveying and dosing of the material would massively impede further processing. With the usual consequences: process interruptions, repeated purging of the complete system, considerable material losses and additional costs because pre-



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The TAVA F degassing station from the portfolio of the TARTLER GROUP subsidiary SOMATA consists of a device for clamping and stabilizing a barrel, a combination attachment for synchronized vacuum generation and filling, a vacuum pump and a control system with touch screen.

fabricated components might have to be replaced and upstream processes cleaned at great expense.

### **Residual quantities can be reused without problems**

Users in silicone, adhesive and gelcoat processing who use a TARDOSIL with TAVA F are freed from these problems. This is because the degassing station removes the moist interfering air from the liquid and pasty residues and enables them to be filled safely and with low loss into the barrels, which can then be reintroduced into the processing cycle. Depending on the size of the company and the quantities of resin in circulation, significant savings in material purchasing can be achieved. At the same time, the user is making a considerable contribution to avoiding waste, conserving resources and improving the eco-balance of the product life cycle.

The TAVA F is available as standard for the air-free filling and refilling of 200- and 50-liter barrels, but can also be supplied for other container sizes on request. It consists of a device for clamping and stabilizing the barrel, a combination attachment for synchronized vacuum generation and filling, a vacuum pump and a control system with touch screen. All components are mounted on an easily accessible base with a barrel centering plate. While the loading of the station, the positioning of a still empty barrel and the closing of the clamping device can be done manually, the vacuum application of the barrel and the almost simultaneous filling of the material are done fully automatically. After a few minutes, a barrel is filled without air and is ready for use in production.

By the way: Both the operation of the TAVA F and the functionality of the TARDOSIL are showcased in various videos on Tartler's YouTube channel.

## **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/](http://www.pr-box.de/)*



Further information about the TARDOSIL series and TAVA F can be found on our website:

- ▶ <https://www.tartler.com/en/products/tardosil-series/>
- ▶ <https://www.tartler.com/en/products/tava-f/>



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