* **Two premieres for ProTec at K 2019: SOMOS RDF flexible modular drying system and high-speed retrofit for LFT pultrusion lines to boost productivity**
* **Live: Physical foaming with "SOMOS Perfoamer"**
* **Efficient materials handling with Batchmix batch dosing units and RDM resin dryers**

*Bensheim, 17 July 2019.* K 2019 is where ProTec Polymer Processing GmbH will be presenting the SOMOS RDF modular resin drying system for flexible stationary use without a central dry air generator. The system consists of autonomously operating units with their own Industry 4.0-capable controllers. Depending on requirements and desired throughput, the individual modules can be combined into a variable overall system with central visualization and control.

Another premiere at K 2019 is a high-speed retrofit for ProTec's LFT pultrusion lines. This retrofit can straightforwardly boost the production speed of existing manufacturing lines for high quality long fiber reinforced thermoplastic pellets from 30 m/min to 50 m/min, so considerably increasing output of high quality pellets and cutting production costs.

To illustrate the many and varied possibilities offered by an LFT pultrusion line, ProTec will also be showing various products produced on the line. These include impregnated fiber strands which are used provide part of the reinforcement for automotive and aerospace injection moldings.

ProTec will also be giving live demonstrations of physical foaming using the "SOMOS Perfoamer" manufacturing solution, which was presented in 2018, and offering an overview of its comprehensive range of components and solutions for efficient materials handling. You'll be able to find ProTec at K 2019 in hall 9, booth D60.

**Modules with their own dry air supply can be combined to create a complete RDF system**

Depending on the required throughput, the modular stationary RDF (Resin Dryer Flexible) drying system can be made up of a number of independently operating drying modules. Components are available with capacities of between 50 and 400 liters, each one being individually controllable by its own controller. Alternatively, when interconnected, they can be controlled using a common operator control unit. As standard, they offer drying temperatures of 60°C to 140°C and high-temperature variants for up to 180°C are also available. Each module has an integrated air generator, so ruling out complete failure, as may occur with a centrally supplied drying system.

Installation requires little space and effort as the modules are compact and, in comparison with a central drying system, do not require extensive supply and return air piping. The RDF modular drying system also saves energy because only the components which are actually required are operated. If requirements change, modules can be simply added or removed.

Like the tried and trusted mobile SOMOS RDM series resin dryers, the RDF modules also have an Industry 4.0-capable PLC controller capable of storing up to 200 formulations. They have their own dry air generators and also provide various smart energy-saving systems: drying air volume is automatically adapted to actual throughput while regeneration cycles are controlled on the basis of the actual water content of the pellets.

**Boosting throughput with high-speed retrofit for LFT pultrusion lines**

A simple high-speed retrofit can noticeably boost output volumes on an LFT pultrusion line for high quality long fiber reinforced thermoplastic pellets. The production speed of existing systems can be distinctly boosted from 30 m/min to 50 m/min by various modifications and additions.

For instance, ProTec has incorporated an additional preheater and optimized die geometry, so accelerating fiber temperature adjustment and ensuring high quality fiber impregnation even at high production rates. Cooling capacity was also increased with an additional water bath. ProTec has also made adaptations to the pelletizer. Carefully arranged rotary knives cut the pellets at high speed to the ideal processing length of 6-12 mm.

Numerous LFT compounds can be produced using ProTec's custom manufactured LFT pultrusion lines. Any conventional thermoplastics can be used as the matrix, while reinforcement can be provided by glass, steel, aramid and carbon fibers. Even recycled material and additional fillers can be included.

The pellets are used as the starting material for injection molding components which combine high strength and light weight with very good surface quality. Users in particular include manufacturers from the automotive and packaging industries and from the electrical, household appliance, medical device and sporting equipment sectors.

**Simple and efficient physical foaming with "SOMOS Perfoamer"**

K 2019 will also see ProTec exhibiting the "SOMOS Perfoamer" manufacturing solution, premiered at the last Fakuma, for physically foaming plastics parts. The innovative "PLASTINUM Foam Injection Molding" process presented by Kunststoff-Institut Lüdenscheid and Linde AG in 2017 can now be used on an industrial scale. "SOMOS Perfoamer" combines the ease of handling of chemical foaming processes with the high foaming pressure of physical foaming. Even with thin-walled moldings, good foaming results and thus considerable material savings can be achieved.

ProTec's production cell, which will be shown in operation at the trade fair, includes all the components for drying and temperature adjusting polymer pellets, loading them with CO2 under pressure and then feeding them to any desired injection molding machine.

**Handling materials efficiently with Batchmix batch dosing units and RDM resin dryers**

As a one-stop shop materials handling supplier, ProTec will be showing the Batchmix 50 and Batchmix 350 batch dosing units from its SOMOS series of the same name. There will also be live demonstrations of the SOMOS RDM-40 mobile resin dryer, whose primary application is as a variable auxiliary unit for processing machines.

**Flexible Batchmix batch dosing units for as many as twelve components**

The versatile modular SOMOS Batchmix series of gravimetric batch dosing units is available in fourteen sizes for throughputs ranging from 5 to 3,000 kg/h. The smallest unit with its throughput of up to 50 kg/h can dose four components while, depending on size, further models can process up to twelve flowable materials at once. Specially developed high precision dosing devices mean these models are capable of quickly, accurately and reproducibly manufacturing a variety of changing pellet and regrind blends.

The SOMOS Batchmix is operated using an intuitive, high performance touchscreen controller which, thanks to its integrated communication interfaces, is simple to integrate into higher-level control systems. Retrofittable option packages further extend functionality. For example, extruders and film haul-off controls can be integrated into the controller.

**SOMOS RDM mobile dryers**

SOMOS RDM series mobile dryers, capable of reliably and energy-efficiently drying any hygroscopic materials, simplify frequent material changes on processing machinery. They are also capable of automatically supplying pellets to machines by dry air conveying, so enabling convenient remote process monitoring. The SOMOS RDM series consists of five models with bin volumes of between 50 and 400 liters.

**About ProTec:**

ProTec Polymer Processing GmbH is an international one-stop shop supplier to the plastics industry with a focus on injection molding, extrusion and blow molding. Its range of services covers components, solutions and turn-key systems for efficient materials handling, treatment and recycling of plastics and for manufacturing long fiber reinforced thermoplastics using LFT pultrusion lines. Managed by Peter Theobald and Dirk Egemann, the company has some 120 staff and is based in Bensheim, near Darmstadt, Germany.

**Photos:**



Photo 1:

Depending on the required throughput, the modular stationary SOMOS RDF (Resin Dryer Flexible) resin drying system can be made up of a number of independently operating drying modules, this system comprising four components (photo: ProTec Polymer Processing).



Photo 2:

A high-speed retrofit is the straightforward way to boost production speed on existing ProTec LFT pultrusion lines for manufacturing high quality long fiber reinforced thermoplastic pellets and to distinctly increase pellet production volumes (photo: ProTec Polymer Processing).



Photo 3:

The SOMOS RDM series mobile resin dryers, the photo showing the SOMOS RDM-70/200, can be used as a variable auxiliary unit for processing machinery (photo: ProTec Polymer Processing).

Ein Bild, das Boden, drinnen, Tisch, Gebäude enthält.

Automatisch generierte Beschreibung

Photo 4:

The "SOMOS Perfoamer" manufacturing solution combines the ease of handling of chemical foaming processes with the high foaming pressure of physical foaming (photo: ProTec Polymer Processing).

**This press release as a Word document and print-ready images can also be downloaded from**

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