

NEWS RELEASE

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K 2013: WITTMANN's platform for innovative material handling

Material drying, material conveying and blending: At the K 2013, WITTMANN is presenting new solutions in every field. At booth A04 in hall 10, visitors can have a close look on the new DRYMAX dryers, FEEDMAX loaders and GRAVIMAX blenders.



DRYMAX Aton₂ F120 and DRYMAX Aton₂ F30 (from left to right)

Innovations in compact and central dryers

WITTMANN is unveiling not one but two plastics drying innovations at the K 2013 trade fair: A new segmented wheel dryer model, the **DRYMAX Aton₂ F30**, has been added to the compact dryer line, and the new **DRYMAX E FC** is the latest addition to WITTMANN's range of central dryers.

The new **DRYMAX Aton₂ F30** makes its debut at K 2013 as the third model of the innovative WITTMANN segmented wheel dryer series. The first two segmented wheel dryers with dry air volumes of 70 m³ and 120 m³ have enjoyed enthusiastic market acceptance. Now the new model **F30** with a capacity of 30 m³ is also available.

The **DRYMAX Aton₂ F30** is designed to dry material at a rate of 20 kg/h. As with the earlier models, the silo return air is dehumidified in the segmented wheel and fed back into the process while maintaining a constant dew point. The dryer operates with countercurrent regeneration and the heating element has an exceptionally high efficiency. Nonetheless, the energy consumption of the **DRYMAX**

Aton₂ F30 corresponds to that of a conventional two-cartridge dryer: The pre-set drying temperature has a direct influence on the duration of the regeneration heating phases, which means that the regeneration air diverted from the segmented wheel does not require additional heating.

The **DRYMAX Aton₂ F30** can save up to 40% of the energy consumed by other drying wheel technologies, and in addition it maintains a constant dew point of as low as -65 °C. The so-called **EcoMode**, which permits cartridge mode operation when the water load of the drying agent is low, has also been integrated into the **Aton₂ F30**. It enables the dryer itself to select the optimal arrangement of the drying process. If the **DRYMAX Aton₂ F30** is operating in cartridge mode and determines, for example, that wetter material demands a suitably adapted drying process, the unit automatically switches to wheel mode. Even in regions with relatively extreme climatic conditions which have a strong influence on drying quality, the **DRYMAX Aton₂** always achieves absolutely superior values.

Central or battery dryers with frequency-controlled blowers for performance-based operation are nothing new. However, WITTMANN now presents the decisive innovation in this area with the **DRYMAX E FC**, the first such dryer in which the drying air volume automatically adjusts to meet changing requirements. The need to enter the material consumption into the control panel manually in order to adjust dryer output is now a thing of the past. Whether the output of the dryer blower needs to be increased or decreased is determined here by the suspension pressure in the collection air lines. Along with the dew point, the dryer's display also indicates the current blower frequency. From a larger perspective, the frequency-controlled air output adjustment now also offers a new means of making more effective use of emergency or replacement dryer systems. No personnel are needed anymore to switch dryers or to connect dryers; the corresponding processes are set in motion by the intelligent **DRYMAX** control system.

All too often, large dryer systems use energy in very uneconomical ways. Usually two dryers are each connected with one silo battery. Each of those material dryers then delivers its full output. The quantity of air to the dry silos is controlled and distributed using systems such as automatic air flow regulation dampers (**SmartFlow**) – but the air volume of the dryer is not. So when material consumption is low, if the dryers supply the silo batteries with full power, it results in a flagrant waste of energy. Using the **DRYMAX E FC**, it is possible for the first time to connect both dry air generators with all drying hoppers. The **DRYMAX** throttles its output as a function of demand – as measured by the pressure level – which can lead as far as to shut one of the two dryers down. In this way, it is possible to dramatically reduce energy consumption. When demand increases again, the second dryer is automatically reactivated. This function is available as an option for the entire central dryer series from 180 m³ to 1,200 m³ dry air volume.

Revolution in single conveying systems

At the K 2013, WITTMANN is exhibiting the new **FEEDMAX S3 net**, which represents the future of the single conveying system in plastics processing. Single conveying systems are typically simple and effectively built material conveyer units

which function independently from other (neighboring) equipment. Joining them together in a network, however, promises a genuine revolution.

Single conveying systems are usually used for very simple conveying tasks such as filling mobile dryers or feeding granulate into an injection molding unit. In the past, however, plastics processors have also repeatedly expressed their wish for the ability to control such equipment from a central location – specifically, the ability to control conveyance times or just to activate and deactivate the systems.

In practice, the typical application is a manufacturing cell consisting of a mobile dryer with a conveyor system alongside an injection molding unit which also has a single conveying system. Until now, if the conveyor systems had to be stopped or the conveyance times changed, the appropriate action had to be performed manually for each individual unit. In some cases this involved climbing up on the processing unit, and with larger drying hoppers a ladder was necessary, in order to reach the system. That could be avoided with a remote control, but each unit required its own control unit.



FEEDMAX S3 net and FEEDMAX BS net (from left to right)

For the first time, the **FEEDMAX S3 net** from WITTMANN now combines the advantages of single conveying units with those of a centralized control system. Using a CAN bus, several **FEEDMAX S3 net** conveyor units can be linked together and controlled from a single console. WITTMANN provides a high-resolution 4.3" TFT touch screen for this purpose, which displays complete information about the status of each separate unit. The information is processed graphically for display on the screen, in order to make operation as easy as possible. As standard equipment, the **FEEDMAX S3 net** features an LED status display which is easily visible even from a distance and thereby promotes production reliability. This LED display was first introduced with the **Aton** segmented wheel dryer. Meanwhile the principle has become a kind of trademark for the new developments from WITTMANN in the areas of material drying, dosing and conveying.

With its powerful 1,100 W motor, the **FEEDMAX S3 net** has become a real powerhouse. It is designed for conveying up to 200 kg/h. A micro-fiber filter made of polyester and its automatic cleaning system prevent power reduction when processing dust-laden materials. Made entirely of stainless steel, the unit can also be fitted with an optional 2-component diverter which enables it to convey both new product and regrind.

For even more power or to overcome greater conveyor distances, a variant with a central vacuum generator is also available: the **FEEDMAX BS net**. In various size models, the **FEEDMAX BS net** can be combined with blowers of up to 7,500 W.

Material blending: Every gram counts

The new gravimetric blenders from WITTMANN are a very special innovation. At this year's K show, the **GRAVIMAX G14** with a material throughput of up to 80 kg/h and the **GRAVIMAX G34** with a throughput of up to 200 kg/h will be on display.

The dosing units exhibited at K 2013 are comparable in design, operation and control. The key difference lies in the size of the devices – and therefore their capacity.

The demands placed on plastics processors today are constantly changing. And when production operations grow, they may need larger molds, which are often accompanied by higher rates of material consumption. The operating limits of existing dosing units is soon reached, and the corresponding investment can hardly be avoided any longer.



GRAVIMAX G34 and GRAVIMAX G14 (from left to right)

The new control system of the **GRAVIMAX G** dosing unit model series offer a previously unknown function for so-called “parallel dosing”. This enables up to 30% higher throughput without having to make mechanical modifications to the equipment itself. Simultaneous operation of multiple dosing valves and the resulting increase in material flow make this possible. As with the previous models, **RTLS Technology** (real time weighing) ensures accurate dosing. Throughout the entire dosing cycle, two weighing cells are active. They perform exact measurements with accuracy to a tenth of a gram and guarantee consistent shot-to-shot part quality. The LED display (known as **ambiLED**) on the front of the unit clearly indicates the system's mode of

operation at any given point in time. The dosing weight, the progress of dosing operation, and the remaining quantity to be dosed can be read in % or kg at all times from the color display of the new handheld control unit – whereby the graphic presentation of the user interface is based on that of the WITTMANN temperature control units.

Gravimetric dosing systems are often located on the back of the processing unit, or at least some distance away from its control panel. The new handheld control unit of the **GRAVIMAX** is also very convenient in such cases. A touch of the screen displays other optional settings or the recipe management screen, providing clearly arranged functions which make the unit very easy to operate. An extremely wide range of adjustments – for very rapid or very precise dosing, for example – can be made via easily manageable sliders.

Different materials and granulate grain sizes and different types of regrind have different flow properties, so certain fluctuations in the end product are inevitable when using time to control dosing operations. By contrast, the **GRAVIMAX** uses so-called “auto tuning” to automatically log the flow properties of the material over the course of the first cycle and autonomously adjusts the dosing algorithm accordingly. Information about the current production – concerning throughput, the consumption of various materials, or the dosing ratio of components to one another – is also easy to read from the control system’s display. And a history of about 1,000 cycles can be exported via a USB port for further analysis.

WITTMANN worldwide is one of the leading manufacturers of robots and peripheral equipment for the plastics industry. The WITTMANN group with Headquarters in Vienna/Austria is a worldwide operating company with 7 production facilities and 28 branch offices in all major plastics markets in the world. WITTMANN’s product range includes robots and automation systems, automatic material handling with dryers and plastic recycling, temperature controllers and chillers for machine tools and volumetric and gravimetric blenders.

With this comprehensive range of peripheral equipment, WITTMANN can provide processors of plastics with total solutions which cover all their requirements, ranging from autonomous work cells with single zone temperature controllers, screenless granulators, sprue pickers, integrated vacuum loading systems and integrated cross-linked control systems with integrated material loading and dryers to automated robotic systems for flexible finishing of semi-finished injection molded parts.

On April 1st, 2008 WITTMANN took over the BATTENFELD Kunststoffmaschinen GmbH at Kottlingbrunn (Lower Austria). There will continue to be independent growth in the market for auxiliary equipment on one hand and for injection molding machines by BATTENFELD on the other. However, the syndication will lead to connectivity between both product lines, providing the advantage plastics processors have been looking for in terms of a seamless combination of processing machines, automation and auxiliary equipment – all occurring at a progressive rate.

Contact:

WITTMANN Robot Systeme GmbH
Am Tower 2
90475 Nuremberg
GERMANY
Tel.: +49 9128 7099-0
Fax: +49 9128 7099-500
info.de@wittmann-group.com
www.wittmann-group.com



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WITTMANN at K Show: hall 10, booth A04