

Higher efficiency ? By retrofitting !

As a leading manufacturer of **process control systems** for blown film extrusion lines, PLAST-CONTROL is well established in the film processing industry.

For many years an important part of our business has been the retrofitting and up-grading of blown film lines.

Often the performances of older Coextrusion lines are limited through the cooling capacity at the machine output. Using our patented PRO-CON air ring system with "MAGIC FLOW" lip inserts, performance increases of up to 40% are possible.

Frank Müller, director of technical development and cooling systems explains: "Experience has shown us that after retrofitting on most lines, typical increase in production output is in the order of approx 15%; that means a higher output of approximately 468,000 kg yearly at an average output of 400 kg/h."



PRO-CON DUO type air ring

Advantages of PRO-CON:

- Significant higher output and constantly better film tolerances.
- Fast product adjustment
- Material savings.
- Energy-efficient, only 0.5 kW increased connected load.
- Easy retrofit.
- Retrofits of rotating / oscillating dies possible.

New Extrusion line at DUO-PLAST (D)



7-layer Co-Extrusion line with gravimetric dosing units

In the beginning of 2008, PLAST-CONTROL retrofitted a new 7 - layer line at the company DUO-PLAST (Lauterbach) with gravimetric extruder control, 11 gravimetric dosing units, conveying system and 2 separate profile measurement systems.

The profile measurement systems consist of a radial adjustment with rotating scanner and a C-Scan system, mounted behind the lay flat device. The scope of supply also included a coupling station that was constructed on the specification given by DUO-PLAST.

The conveying system consists of the approved conveying unit types PCH 400 and a central vacuum pump with pre-filter. Additionally silo coupling monitoring has been integrated into the system upon request of the customer to avoid mis-filling. The central control service system, Type ACS 5700 AS is equipped with a link to provide a data exchange to the plc based control system of the line. A smooth start-up was experienced in close cooperation with the machine builder.

Detlef Kaul

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Editorial



Energy consumption is and remains a sensitive issue with rising costs. In this context it is sometimes astonishing how little even our industry is thinking about this topic.

"Pin heated air rings" are available on the market for the profile control of blown film lines in which the cooling air is partially heated up again to get an influence on the stretch behavior of the film.

*Recent calculations made:
A controlled air ring of this type of model for one for example 400 mm die head requires about 17 kW, about 15,00.,00 euros per year and produces about 72 tons of CO₂, as much as 60 car / year. This compares to an air ring with air volume control which requires only about 0.5 kW for the same performance (multiply this with the average of 4-6 systems per plant).*

These enormous differences in operational cost / energy consumption are real and tangible and can be quantified in lost profits but staggeringly are overlooked. Further political and social considerations are going to undoubtedly be directed at CO₂ emissions with subsequent increases in taxation for energy hungry products.

Careful planning of machinery purchases will reduce this burden to the blown film producer.

Norbert Sappelt

PRO-BATCH PB 422 economic and precise

PRO-BATCH blender with high flexibility and multistage dosing.

The new PRO-BATCH blending system developed by PLAST-CONTROL offers gravimetric metering of a maximum 4 or 6 component structure.

The design requirement was to ensure **ease of use, compact design for extruder mount and short cleaning cycles in addition to high accuracy.**

The computer control platform includes various software tools and options in addition to the well-known PLAST-CONTROL grams per meter control up to 9 extruder co-extrusion. The system controls the line very precisely for the specified layer thickness and extruder

throughput minimizing material consumption and waste.

The PB Blender is equipped with double weigh vessels which may be used irrespective of each other.

This fact differs PRO-BATCH from all other systems which are available on the market.

An optional hybrid of integrated loss in weight dosing below the mixer working in combination with the batch components is available. This allows a higher throughput and also saves time during order change.

The use of dosing units also offers increased accuracy for small percentage feeds due to consistent feed and no de-mixing errors.



PRO-BATCH metering system for different applications

The time advantage of the new construction allows a correction of each component to guarantee that **every** fill charge corresponds with the recipe avoiding correction and inaccuracy on subsequent batch charges.

To guarantee this one shot charge accuracy the system is equipped with active density fill calculation and automatic variable valve technology.

Unlike the usual mixers employed in batch blenders with horizontal axis the PRO-BATCH utilizes a **vertical cone mixer** without an external mounted motor integrated within the extruder throughput control hopper.

The vertical mixer principle **guarantees a homogenous mix** also in the edge zones of the mixer hopper.

If you have a chance look at the edge zones of a horizontal mixer - the granule material just moves up and down and will not be mixed correctly!

The PRO-BATCH system series can be integrated into all the process computer platforms supplied by PLAST-CONTROL.

Stefan Konermann



PRO-BATCH weighing vessels

PLAST-CONTROL Faces



Introducing: Thomas Berghoff



Thomas is responsible for the order processing. Nearly all of our customers at some point have had contact with him and therefore we would like to give a face to the voice.

Thomas's role is important and includes monitoring all incoming order specifications for precise technical and commercial details. His role also encompasses distribution of the tasks for the workshop and development department as well as the corresponding dispatch of the systems.

Thomas is a certified engineer and business economist (VWA) and has worked for PLAST-CONTROL since 1985.

His great experience also stretches to our very first systems and his knowledge is impressive. Additional knowledge of "specially designed" systems is very helpful for both our customers and also for our company.

Thomas is married, with two children and lives in Wuppertal.

Detlef Kaul

Brief introductions:

New Software Options: Service Guide Calibration

Today, higher quality demands on products supplied by film line producers are increasing.

An optimal production needs to be guaranteed constantly.

This also covers routine service for the plant components which is highly important, but can be overlooked. Standard service tools are now available in every PLAST-CONTROL system including the software option "Service Guide Calibration" which simplifies gravimetric calibration with a step-by-step guide, calibration calculations are entered automatically into the right area of the parameter service.

This option can be retrofitted to system types GT3, GDC+, GDCn and ACS.

Detlef Kaul



Screen display Service-Guide

New Hardware Options: Differential pressure measurement for pre-filters

Today's conveying systems are normally working with a central pre-filter to separate the dust. Each conveyor is featured with a coarse metal filter to repress the granulate. In spite of a mechanical and regular automatic dedusting, the central filter needs to be cleaned on occasion. These intervals mainly depend on the quality of raw material and environment.

Cleaning too often takes up available suction time and too rarely takes suction capacity from the system as the choked filter causes suction pressure loss.

By applying the optional differential pressure measurement in front of and behind the central pre-filter the machine operator will be notified as soon as the filter is **losing too much pressure**. But he can also follow the loss of pressure at any time in order to see and eliminate any leak or plugging of the whole line system.

Stefan Konermann

New Hardware Options: Hopper magnets

Many customers consider hopper magnets in weighing hoppers and conveying hoppers to be an absolute "must" in order to prevent any damages to the extrusion line.

It is always amazing to hear the stories about what kind of objects like glasses or lighters have been attracted by the magnets. It is also interesting that the raw material delivered today can also contain scrap metal fragments.

Since last year PLAST-CONTROL GMBH provides hopper magnets in various sizes.

Detlef Kaul



Hopper magnets in various sizes

Events / Exhibitions



24.-28.03.2009

PLAST 2009

in Milan / Italy



26.-29.05.2009

PLASTPOL

in Kielce / Poland



22.-26.06.2009

NPE 2009

in Chicago / USA

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