Auto Density Control

INCREASES ACCURACY AND
RESPONSE RATE

WENGER®
COMPANION ANIMAL DIVISION

After extensive testing and development, automation for product density is here. Wenger has integrated three existing process components to provide automatic control of wet bulk density.

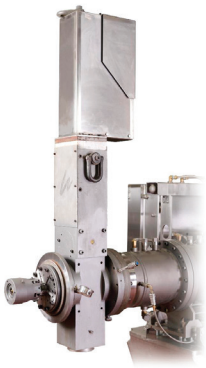
Designed to work in conjunction with our Back Pressure Valve (BPV) on the extruder barrel and our integrated APM extrusion control system, the new Wenger Auto Density Control (ADC) automatically measures product density and adjusts the process to maintain the desired density specifications.

THREE BASIC COMPONENTS

The Wenger ADC consists of three basic components. It can be installed as part of a new system or retrofitted into a system that already has one or more of the basic components. They include:

1. Source Technology's sampling and bulk density measuring device (BDS) that serves as the heart of the system.

2. An integrated extrusion control system ... specifically Wenger's APM (Automated Process Management) system.



3. Wenger's Back Pressure Valve (BPV) mounted on the end of the extruder to control specific mechanical energy input.

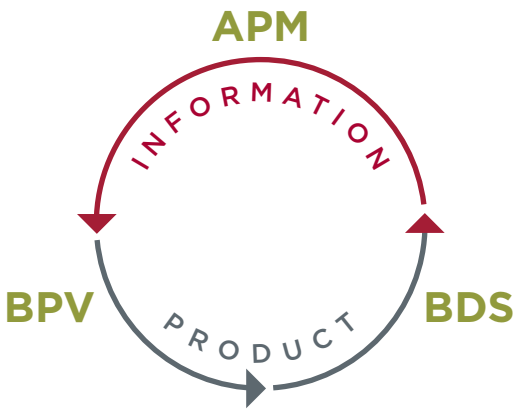
CONSIDER THE COSTS

Variations in product density have both obvious and hidden impact, influencing:

- Coating applications/uniformity
- Closure and sealing of bags due to inconsistent pellet density
- Transportation and storage
- Consumer perceptions when a bag is not filled or there are variations in pellet size and/or color
- Feeding guidelines when the label is based on volumetric measurements
- Costs associated with increased waste, downtime and loss of production. »

COMPANION ANIMAL PROCESS SOLUTIONS

Wenger knows more about extrusion systems for companion animal foods than anyone else in the world. We are dedicated to the evolving needs of the pet food industry and pledge our ongoing commitment to quality and service.



MAN VERSUS MACHINE

Even if a company has traditional product bulk density measurement in place, it will fall short of necessary accuracy in production due to the manual intervention that is required to take measurements and adjust the process.

Moreover, even the best employee can't respond as quickly as the ADC. For example, the system can be programmed to collect and analyze a sample as often as every 45 seconds, whereas an operator may realistically check product density every 10 to 15 minutes at best. Plus, the ADC can automatically adjust the process to reach a new density setting in as little as two minutes, depending on the magnitude of the new entry.

HOW IT WORKS

Once the extrusion line is operating and stabilized and the ADC function is enabled, the ADC system:

- Automatically retrieves a sample from the product flow stream at the inlet of the dryer.
- Weighs the sample and calculates the density. The sample is then either returned to the product stream or dispatched to another location, if desired.
- The density value is relayed to the APM extruder control, which compares this value to the setpoint; assuming no other major process changes are required, the APM automatically controls the back pressure valve as needed to maintain the wet bulk density.
- The APM continues to monitor the density set point, density value and BPV position, while logging those values on the trend screen and into a database.

ADDITIONAL BENEFITS

In addition to the direct and obvious benefits of Automatic Density Control, application of this system can also:

- Free production personnel for other tasks.
- Decouple personnel from the product for greater food safety.
- Provide validation data for the process via the data display and recording capabilities of the system.
- Allow the operator to establish boundaries and alarms for various process parameters, such as product density range specifications, BPV closure and the main extruder drive motor load.

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