PROCESS CONTROL CORPORATION

Quality Auxiliary Equipment for the Plastics Processing Industry

WHO WE ARE

Established in 1967, Process Control Corporation supplies manufacturers and businesses with high quality auxiliary plastics processing equipment, including gravimetric continuous and batch blenders, mono- and co-extrusion control automation, thin film scrap automatic recycling innovations, resin material handling and drying equipment, and remote monitoring/SCADA integration systems. We have an unending commitment to the design and engineering of advanced auxiliary machinery for the plastics processing industry. Our goal is to provide the most accurate equipment and exceptional customer service. Process Control leads the industry with advanced design and innovative solutions for the global marketplace.

We continue to set the industry standard with our Guardian® Series 2 product line; our high precision gravimetric weigh scale type batch blenders. Designed to provide precision batch-to-batch dispensing and consistent homogenous blending **in each and every batch**, these blenders do not average dispensed ingredient weights over multiple batches, as is common with other batch blenders in the industry. Guardian® Series 2 standard features include a easy to use 6" color touchscreen operator interface, an off-the-shelf industrial controller with Ethernet remote communications capabilities, high accuracy pulsing V-gate dispensing, a “No Dead Zone” mixing chamber, and numerous ease-of-cleanout features for quick product and/or ingredient changeovers.

Our in-line, thin film Automatic Scrap Recycling systems also continue to set the standard for blown and cast film waste recycling. These systems: add no heat history to the recaptured resins as repelletizing does, are ultra low cost when compared to heat-added polymer reclaiming systems, outperform other competitor's similar type systems in head to head comparisons, and pay for themselves in just weeks or months.

From our world headquarters in Atlanta Georgia, Process Control Corporation provides manufacturing, project engineering, marketing, sales, and customer support for the US, Canada, Mexico, Central and South America.

Our subsidiary, Process Control GmbH, was established in 1994 and handles project engineering, manufacturing, sales, marketing, and customer service support for continental Europe, India, Africa, Asia, Australia and the Middle East.

PCC Advantages

Blending Accuracy

Appropriately measuring accuracy has often been debated in the plastics industry. Regardless of which method is actually used, blender manufacturers all agree that samples, obtained from a blended mixture, as a percentage, should be grouped together about the set point of the feeder. This grouping is known as dispersion or deviation from the set point percentage. A producer needs to understand the importance of an accurate blend system in relation to the feeder set point, so they can observe, financially, the blender's performance with respect to the amount of resin being used in a recipe blend.

Users of inaccurate and unstable gravimetric blend systems are forced to actually overdose additives to avoid the low percentage variations that produce an unsatisfactory product. Process Control designs electronic and mechanical feed controls to accurately control each ingredient and minimize blend deviations, creating a more stable set point for blender accuracy. It is these levels of accuracy which saves significant money over time, especially in the areas of color pellets and other high priced additives. In head to head comparisons with other manufacturer's gravimetric blending equipment, PCC mixing accuracy has been shown to be superior to the competition.

Engineering

Process Control Corporation has distinguished itself by providing customers with unique and innovative auxiliary equipment and systems. PCC offers a highly configurable line of standard equipment options, which normally meet all the customer's requirements. Given more time for engineering, special software and/or custom mechanical designs, PCC can precisely match the customer's specifications. A great deal of our product development over the years has been inspired by customer special requests. It has always been our policy at Process Control to try and find a way to say "YES", when our customers ask us to provide a unique solution for their processes and applications.

Products

- GRAVIMETRIC BATCH BLENDERS
- GRAVIMETRIC CONTINUOUS BLENDERS
- ASR® AUTOMATIC SCRAP RECYCLING SYSTEMS
- EXTRUSION CONTROL SYSTEMS
- MATERIAL HANDLING SYSTEMS
- POWDER FEEDERS

G2 Operator Touchscreen Panel

Gravimetric Batch Blenders

The Guardian® Series 2 weigh scale type Gravimetric Batch Blenders were developed for plastic processing companies who want the simplicity of operation combined with the most accurate and superior blend homogeneity at a low cost. Process Control engineers have produced a highly advanced metering and weighing system that accurately controls every ingredient of every batch to the desired amounts and is not averaged over multiple batches, as is common in other batch blenders in the industry. In addition to precise batch-to-batch metering, the performance of the mixer is just as critical to the end product. Many years of research and testing were spent in developing the most thoroughly homogeneous mixer in the industry. Combining highly accurate metering and thorough blend homogenization, the Guardian® Series 2 blender is an excellent choice for cost conscious manufacturers and businesses.

Features

- Each hopper has one 90° side and no transition sections for improved material flow.
- Hopper access doors with redesigned latching system.
- Mixing chamber agitator designed for waterfall type mixing to ensure thorough mixing.
- 4-bolt removable cartridge style dispensing gates for ease of maintenance and clean out.
- Optimized V-design metering gates for improved accuracy and dispensing range.
- Highest accuracy setting allows each ingredient to be dispensed to an accuracy of +/- 0.02% !
- 6" color touchscreen operator interface, with built-in Ethernet remote communications port.

X Series 2 Blender's
6" Color Touchscreen

Gravimetric Continuous Blenders

X Series 2 Continuous loss-in-weight Gravimetric Blenders were designed to produce precise, homogenous blends by weight, regardless of material bulk density variations. Continuous blenders achieve superior blend homogeneity by precisely metering each of the ingredients simultaneously in the correct proportions. The individual material streams are brought together in a cascade mixer designed to thoroughly homogenize the blend. The resultant blend is then captured and preserved all the way through the process. The X Series 2 control system incorporates the latest in micro-processor technology for total automation of recipe entry and storage, inventory control and process monitoring. Functions, actuated through a 6" color touchscreen, are menu driven and step the operator through the required sequences of actions with simple instructions.

Features

- Precision ingredient hopper load cells accurately measure material weight loss under real world conditions.
- Quick-change auger/metering units use variable speed brushless DC gear motors with closed-loop control for precise ingredient measuring.
- Integral Downcomer maintains supply of blended material for use by process, with plug-flow design to avoid de-mixing of ingredients.
- Onboard weighing system digitizes load cell signals for error free transmission to central computer. System designed to detect extremely minute changes in weight.
- High Temperature operating options available on the X 2 for the fiber and other industries.
- "Off the shelf" industrial controller with built-in Ethernet port standard - various protocols supported.

The RMX Refeed Machine's HMI-Touchscreen Operator Panel

ASR® Automatic Scrap Recycling Systems

The recovery of scrap generated during the production of blown film, cast film, tape and extrusion coating processes is a key element in reducing manufacturing costs. The ASR® system can recycle trim scrap and off-spec roll scrap in-line and turn your scrap back into profit without the expense of repelletizing.

A complete ASR® system consists of several components. A trim removal inducer will take edge trims, bleed trims or tapes in a continuous ribbon form from the extrusion line and convey it to an air eliminator mounted on a film scrap grinder. In addition, roll scrap and/or loose scrap can also be introduced at the grinder. The grinder produces ground scrap and conveys it to the scrap hopper of the extruder-mounted refeed machine. The refeed machine is designed to meter the ground scrap with virgin pellet materials back into the production extruder at a consistent scrap-to-virgin resin ratio.

Features

- Returns scrap to near full base material value.
- No inventory of lower value repelletized material.
- Avoids repelletizing heat history degradation.
- Avoids potential repelletizing contamination issues.
- Maintains high quality end products.
- System follows the extruder rate.
- No extruder surge or starvation.
- Simple line start-up.
- Low operating cost and High ROI.

Gravitrol Standalone System Touchscreen

Gravitrol/Blender Touchscreen Interface

Extrusion Control Systems

Conventional extruder controls allow the operator to set extruder RPM and make adjustments manually. This does not guarantee constant extruder output by weight and over time, the output is typically reduced due to temperature and pressure variations, screen pack conditions and other process related variables. Gravitrol® takes the guesswork of the operator out of extrusion control by continuously monitoring the extruder throughput and adjusting the extruder screw RPM to maintain a consistent output by weight. In coextrusion applications, Gravitrol® will adjust each extruder's throughput to precisely control the proper layer ratios in the end product.

A typical Gravitrol® system consists of a Central Computer/Operator Interface Station, a Weigh Hopper for each extruder and a Drive Control Module for each extruder. The central computer calculates the actual extruder usage and periodically adjusts the extruder screw RPM to maintain each extruder's output to +/- 0.5% by weight. For applications which are controlling line yield (weight per length of finished product), a Line Speed Drive Module is added to control the take-off device and includes a Pulse Generator and Encoder that accurately measures line speed for closed-loop control.

In some instances, PCC blenders can be optionally equipped with Gravitrol® extrusion control. In these cases, extrusion control is directly integrated into the blender's operating system.

Benefits

- Improved product quality.
- Quicker start-ups and product change-over.
- Reduced material use by maintaining tighter tolerances.
- Reduced scrap.
- Improved product repeatability.
- Accurate inventory reporting.

Material Handling Systems

Bulk storage and automatic conveying of raw materials both to and throughout your plant reduces labor requirements and improves overall operating efficiency. Process Control offers a complete line of material handling systems from railcar unloading and bulk storage to vacuum and pressure conveying systems for in-plant distribution and resin drying systems. Our Sales Engineers and Project Engineers are experts in designing the best and most economical system to meet your needs.

A typical railcar unloading system consists of railcar attachment hardware and a Vacuum/Pressure conveying system. The system is designed to vacuum the material out of a railcar compartment into a transfer station, which then delivers the material to the pressure part of the system for conveying to a silo or other in-plant destination.

Our line of resin storage equipment includes welded and bolted silos, indoor day tanks, machine mounted surge hoppers, pneumatic tilter tables and Gaylord dumpers.

A typical in-plant vacuum conveying system consists of a vacuum power unit, a central dust collector, a Director touchscreen sequencing control panel, and either pellet type, and/or dusty-granular type vacuum receivers at each material usage point. The loading of each receiver is initiated and electronically controlled by the Director panel.

Color Touchscreen Materials Sequencing Panel

Innovative Designs: Easily removable pellet screens are standard on all pellet receivers

Powder Feeders

Constructed completely of stainless steel, Process Control Powder Feeders can be used as either a stand-alone type feeder or as part of a continuous blending system, for blending both powder and pellet materials together. They utilize a single spiral hollow shaft auger actuated by a brushless drive which uses a brushless DC gearmotor with a hall effect sensor that delivers accurate motor speed feedback. This allows the system to maintain a consistent RPM during operation.

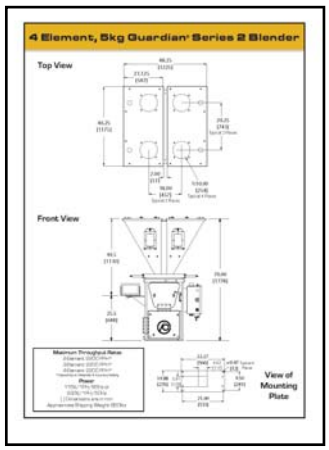
The weighing system is designed with our digital signal processing (DSP) technology to effectively filter out unwanted noise and vibration. The agitator within the powder feeder prevents material from bridging or clumping. Both the auger drive gearmotor and the agitator drive gearmotor are latched onto the hopper using cam-action latches, and are connected electrically using quick disconnect plugs, so they can be quickly removed from the feeder for easy clean-out and material changeover.

The XU Series Continuous Gravimetric Blender equipped with 6 powder feeders

PCC also offers a 6 ingredient U-frame continuous blender that can be equipped with: 1) modular powder feeders in one or more of the stations, 2) pellet hoppers of various sizes, and 3) regrind hoppers with steep wall construction for optimum flowability. Standard, food grade, and/or high temperature components options are also available for this blender.

ADDITIONAL LITERATURE

For detailed product information, including specs and dimensions, please request a PCC data sheet or download one from our website



For more information about our services and other PCC products, please visit our website at: www.process-control.com

PROCESS CONTROL CORPORATION

Do It Right The First Time, Every Time!

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