

Continuous Loss-In-Weight Dosing & Blending
GRAVIBLEND® PLUS



The Advantages of Graviblend®

The use of Graviblend® Plus guarantees product quality and a high level of consistency in the manufacturing process. Color and additives can be metered down to the lowest tolerance level without affecting the quality of your end product. This results in minimal usage of color or additives and a direct savings in overall production costs.

- Flexible, modular design
- Continuous loss-in-weight regulation and mass-flow control
- High dosing accuracy
- Set points can be directly entered, even during operation
- Processing documentation provided of each individual ingredient and total system consumption
- Continuous monitoring of actual throughputs versus set point
- History and event logging for documentation purposes
- Ease of operation leads to minimal downtime and quick changeovers
- Proven success; large global installed base



Continuous Loss-In-Weight Dosing and Blending: Graviblend® Plus



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Applications

- Blown film
- Cast film
- Cast sheet
- Foam sheet, foam panel
- Profile extrusion
- Pipe and tubing
- Wire and cable coating
- Masterbatch manufacturing
- Fiber and filament
- Compounding
- Inline Compounding
- Co-extrusion
- Wood Composite Extrusion



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Graviblend® Plus, uses loss-in-weight technology. The material flow is constantly monitored and regulated by innovative gravimetric technologies: changes in bulk density, pellet size or other changes in material characteristics have no effect on accuracy. The Graviblend® Plus blending system ensures quality end products and thorough documentation through state-of-the-art controls and loss-in-weight technologies.



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- 1 Graviblend® Plus
- 2 Load Cell Module
- 3 Agitated Discharge Unit
- 4 Central Weighing

Why Graviblend®?

The modular design of the Graviblend® Plus and its feeding components provide ultimate flexibility and versatility for changes in your process requirements. Due to Graviblend®'s dust-tight, stainless steel construction, material flows free from contamination risk.

Each Graviblend® Plus can dose pellets, micro-pellets, powders, liquids or regrind. Twin screw feeders and special agitators are available for difficult and non free-flowing materials.

The Graviblend® Plus is self-calibrating, eliminating the need to take manual weight samples or calibrations. Color, additive and material changes are quick and easy due to the special design features of the system.



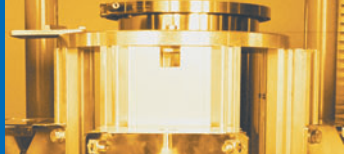
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- 1 Disc feeder
- 2 Graviblend® S with Quick Exchange Modules
- 3 Twin Screw Feeder with Agitator CT 22
- 4 Single Screw Feeder with Agitator CS 65
- 5 Single Screw Feeder with Agitator CD 65



Graviblend® Plus

How Does Graviblend® Work?

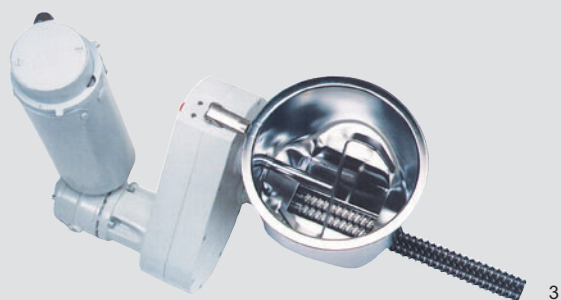
All components are continuously, individually dosed in the mixing chamber by time-synchronized, precision dosing screws and variable speed drive motors. The homogenous mixture is fed directly into the throat of the extruder preventing de-mixing, even with critical materials.

The high accuracy of Graviblend® Plus is based on Colortronic's use of state-of-the-art weigh scale and control technology. This technology, as well as the control software, is tried and proven in the global marketplace. The material flow is constantly measured by load cells in real time and is regulated by the control system.

Variations in material flow per component are immediately sensed and compensated for by the controller.

The built-in digital load cells have an extremely high resolution of 1:1,000,000 of their weight range. They are microprocessor based and utilize vibrating wire technology which is temperature and voltage protected, delivering unparalleled accuracy.

Graviblend® Plus achieves an accuracy of $\pm 0.1\%$, even at small throughputs.

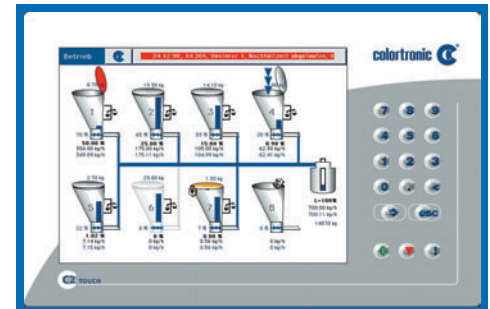


Control Systems

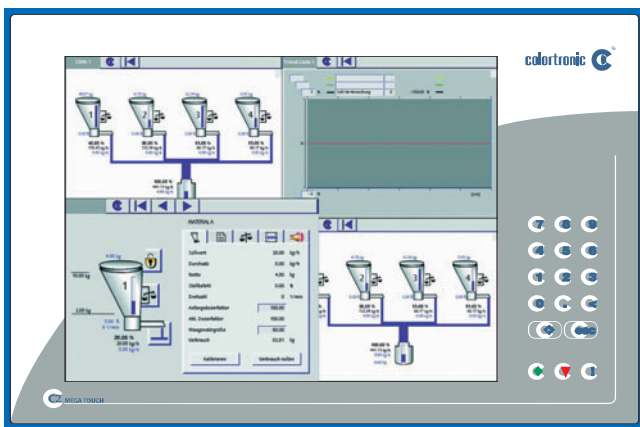
Graviblend® Plus offers user-friendly control systems for a wide array of applications. The dosing stations can operate independently or in tandem on a line. A control system to serve multiple lines is available.

The menu-driven control is geared for easy operation. Messages appear in plain text and multiple language options are available.

Through the dynamic graphic process visualization, the most crucial process data can be monitored as well as changed. However, the control terminal is only a means to an end, and its intuitive design features make it easy to use and operate.

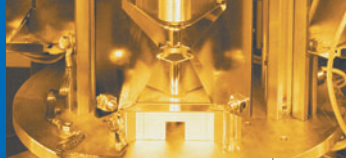


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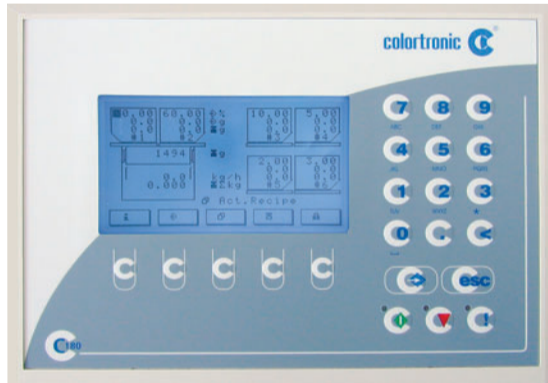


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- The Operating system uses Oberon, which is compact and uses minimal resources.
 - solid structure
 - very efficient on modern computer systems
 - very fast due to minimal software size
- Menu driven control
- Messages in plain text
- Multiple level password protection
- Recipe storage
- Individual or line operation of the dosing stations
- Event and time protocols
- Multiple line control operation possible
- Graphic display of process parameters and equipment configuration possible
- Printer and host interface (optional)
- Input for external production control (optional)
- Process control for co-extrusion installations (optional)
- The modular construction with the central processor unit (CPU) as well as the remote control terminal reduce the need for redundant or seldomly used specialty tools by means of using Service-Tools.
- The PC 104 bus Technology easily integrates the I/O- interface. Software runs on Flash, no hard drive that can crash or become corrupt.



Graviblend® Control



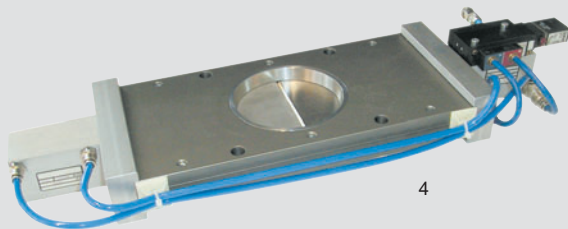
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Integrated Refill System

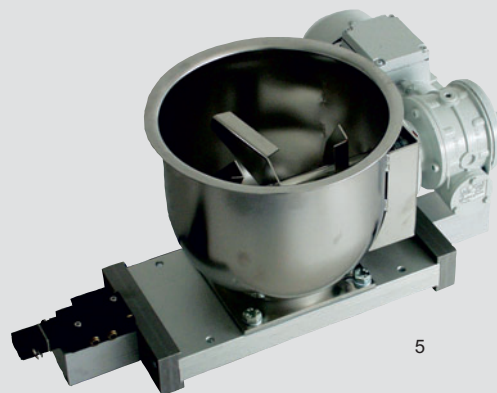
Using a fast refill system with up to 40 refills per hour can significantly reduce system size and cost, especially when used in conjunction with just-in-time conveying systems.

Fast refill systems, in contrast to conventional systems, do not require large hoppers, thus reducing construction costs and installation volume. Employing smaller, simpler components enables quicker product changeover since less material needs to be drained and fewer components need cleaning. Quicker product changeover improves flexibility and operational efficiency.

- 1 Control C2-Megatouch
- 2 Control C2-Touch
- 3 Control Unit
- 4 Double Slide Gate
- 5 Discharge Unit with Agitator



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