

# Inline Continuous Blending Offers Streamlined Flexibility as the Coffee Industry Embraces Ground Coffee Additives

by Mr. Michel Podevyn

As the coffee industry develops new products, consumers are enjoying an ever-increasing number of coffees to choose from. As consumers, we may enjoy our favorite holiday spice flavor in December and a new vitamin-infused blend in January. With this continuous development of new coffee products, it is a constant challenge to streamline coffee-based manufacturing. Whatever the parameters, we are all in search of equipment that saves time, money and produces better, more consistent, results.

The trend to add flavorings to coffee is quickly evolving and now coffee industry leaders are developing coffee products mixed with other additives such as vitamins and nutraceuticals. This type of blending has typically been handled with V-blenders but with the on going challenge to minimize cost, energy, space, cleaning downtime, product waste, time and labor, there is a better alternative.

Many companies use V-blenders to add various additives to their ground coffee. V-blenders are designed to provide an intense mixing action, in which the ground coffee is repeatedly rotated, divided, and mixed. Although mixing with V-blenders is an adequate and tested method, primarily because it is a batch operation it can be costly, time consuming, and wasteful.

Batch processing is an operator intensive operation that requires careful measuring of ingredients and, when factoring in human error, can lead to an inconsistent end product.

With the increasing variations of ground coffee products, there is an improved method to mix a multitude of additives quickly and effectively. Inline twin and multi screw continuous blending in combination with flexible screw conveying is a new and better choice for easily mixing additives because it saves time and money while maximizing flexibility.

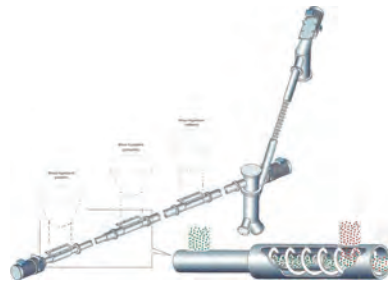
## ITS Continuous Blender

An inline twin screw (ITS) continuous proportional blender achieves thorough mixing in a fraction of the time required by conventional V-blender or other traditional mixing methods. With an easily adjustable blend ratio it adds flavorings, vitamins, nutraceuticals, and even liquids for coffee mixing applications.

The use of ITS Continuous Blenders is new for the coffee industry and incorporates a novel principle where a secondary ingredient is introduced directly into the center of the

flow of the primary ingredient. The two or more rotating spiral-type conveyors inside the blender are of different diameters, with the tube of the smaller conveyor located within the spiral of the larger.

The tube of the smaller conveyor extends beyond the inlet hopper of the larger conveyor. The unique design of an ITS Continuous Blender reduces or eliminates stratification of different ingredients. This type of blender can deliver volumetric accuracy of +/- 2% and gravimetric accuracy of +/- .5-1.0%.



As the diagram shows, the outer tube of the conveyor for the powdered additive extends inside the rotating spiral of the conveyor transporting the ground coffee. By doing it this way, the powder is directly introduced into the flow of coffee. In this example there are three dosing units that are arranged horizontally to deliver ground coffee mix.

An ITS Continuous Blender produces mix quality that out performs more expensive batch equipment. It requires little floor space and mixes so thoroughly that no separation of powdered additive and ground coffee occurs. With an adjustable speed motor, a plant operator can decide which speed best fits the operation. Operator labor typically associated with batch operations is significantly reduced. Because exact quantities can be mixed based on customer demand, the desired mixed product can be delivered in a timelier manner. Too much or too little finished product, often the result of batch processing, becomes a thing of the past.

A food-grade sanitary ITS Continuous Blender is designed with quick release connections for ease in disassembly and cleaning – another labor saving advantage. An optimally designed ITS Continuous Blender is made from standard sized rotation conveyors and can be designed for as little as 100 lb./hr up to 10 tons/hr.

ITS Continuous Blending a Natural Fit with Flexible Screw Conveyors

Flexible screw conveying is the seamless conveying choice when using ITS Continuous Blenders and is ideal for conveying ground coffee. Often the simplest and lowest costing solution, Flexible Screw Conveyors (FSCs) offer easy and affordable ways to transfer materials from Point A to Point B. They can move up to 40 tons/hr and can transfer products across any distance by linking conveyors together.

FSCs use special heat treated, tempered carbon or stainless steel spirals that rotate inside a sanitary UHMWP food grade tube which is ideal for powdered flavorings, vitamins, nutraceuticals and ground coffee applications.

The flexible part of the FSC means the conveyor can be curved to some extent. Depending on the diameter of the tube, FSCs provide users with flexibility to fit in tight spaces or around obstacles between the inlet and the outlet.

A FSC is inherently simple, a major advantage in both popularity and product flexibility. FSCs are used across a wide variety of industries due to the low initial cost, low maintenance, low threat of downtime and quick installation.



## Conclusion

New cost effective and time saving options that offer consistent and reliable mixing results are out there. ITS Continuous Blenders and FSCs are ideal for the coffee industry and can be custom fit into any plant and custom designed for any ground coffee/additive application. These products ensure extremely accurate & flexible mixing while saving time and money traditional methods cannot achieve.

*Mr. Michel Podevyn, President, Spiroflow Systems, first established Spiroflow Systems, Ltd. In Lancashire, United Kingdom in 1971 before forming Spiroflow Systems, Inc. in Monroe, NC. He has been instrumental in the development of the Flexible Screw Conveyor that is now universally used across all process industries as well as a range of Bulk Bag Filling and Bulk Bag Discharging products. Mr. Podevyn's ingenuity and leadership has made Spiroflow Systems a world-wide leader in material handling.*