

# Next Generation of High Accuracy Vibratory Feeding Technology

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Coperion K-Tron is proud to announce a completely new K3 line of vibratory feeders for dry bulk solids. The innovative new feeder design features a unique, patent-pending drive system combined with an advanced control package. The new K3 vibratory feeder is able to achieve accuracies averaging 35% better over traditional vibratory technologies. This revolutionary new generation of Coperion K-Tron loss-in-weight vibratory feeders offers gentle handling of the bulk material, higher accuracy and faster product changeover, resulting in less product waste, less downtime and better end product quality as well as improved sustainability.

## New technology brings significant advantages

These advantages are possible thanks to groundbreaking new technology. The key to achieving high accuracy is the ability to deliver a continuous, even product discharge with minimal pulsations. The new K3 vibratory drive is able to do this thanks to a completely new shock absorber design. Conventional vibratory feeders use rubber or spring shock absorbers, which allow movement of the drive in all directions, resulting in rotational motion. In contrast to these conventional shock absorbers, the new K3 line uses a unique flexible pendulum technology which provides shock absorption only parallel to the desired direction of motion, eliminating rotational movement. This parallel motion ensures an even material flow of the product along the entire length of the tray.

The advanced control system and feeder electronics include internal sensors which measure acceleration, displacement, load, current and temperature at rates of up to 25,000 times per second. The fast-acting controller then adjusts the vibratory drive signal to maintain clean sinusoidal displacement for optimal mass flow. The combination of this unique drive with the Coperion K-Tron SmartConnex control system also results in extremely low energy consumption as compared to other feeding technologies. Power consumption can be as low as 20 Watts for feed rates as high as 6,000 kg/h, thus making it ideal for improved production sustainability and minimal heat dissipation.

The typical feeder package consists of a feed hopper, vibratory tray and vibratory drive mounted on a weighing system featuring patented, high accuracy Smart Force Transducer weighing technology and combined with SmartConnex controls. The mechanical package is modular in design, and versatile in that it can accommodate custom tray configurations and lengths, offering the user more flexibility. A special quick-release clamp mechanism on the feeder tray allows for quick product changeover. The absence of mechanical wear parts results in lower maintenance requirements and ensures gentle handling of the bulk material. In addition to the standard design, a line of hygienic, easy-clean configurations is also available. These include a hygienic silicone cover to enclose the complete drive assembly, making it also suitable for food and pharmaceutical applications.

## Ideal for gentle handling of difficult bulk materials

Vibratory feeders are ideal for the gentle handling of a wide variety of materials, including friable products, abrasive products, products with non-uniform shapes, and glass fibers. They are ideally suited to applications such as the high accuracy feeding of finished food products to packaging lines, uncoated tablets to coating lines, as well as difficult feeding of pellets or regrind to plastic extrusion lines, for example in plastic recycling applications.. Vibratory feeders can often be a viable alternative to screw

feeders for difficult materials, where gentle vibratory feeding may allow feeding without build-up which can occur on screws and screw tubes.

Coperion at the K 2019: Hall 14, Stand 14B19