

Bulk Solids Pump for precise feeding of free flowing bulk materials

The unique Coperion K-Tron Bulk Solids Pump (BSP) feeders have been specifically designed and engineered to provide gentle, precise feeding of free-flowing pellets, granules, flakes, powders and friable products.

The BSP feeders do not use the usual screws/augers, belts or vibratory trays to convey the material. Instead, they utilize positive displacement action to feed free flowing materials with astounding accuracy, offering uniform discharge, consistent volume and gentle handling.

All BSP feeders have vertical rotating discs that create a product lock-up zone, conveying the material smoothly from storage hopper to discharge outlet, achieving true linear mass flow.

Utilizing a simple design and the principle known as „lock-up“, the material in the feeder is moved together in true positive displacement, producing excellent linearity and breakthrough accuracy levels. With no pockets or screws and only one moving part, the compact feeder is cleaned in seconds, making it ideal for applications with frequent material changes.



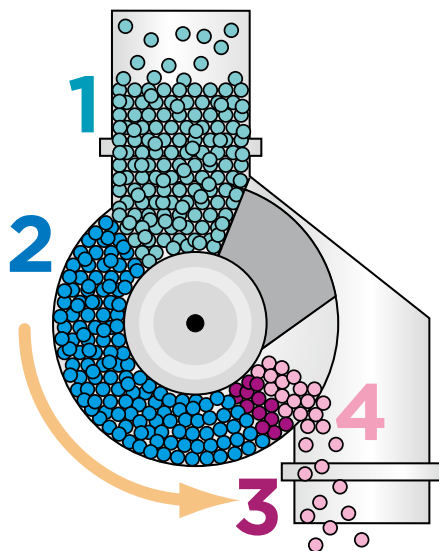
Benefits:

- > True Positive Displacement Action
- > Linear Over Full Operating Range
- > Uniformity of Discharge
- > Active Discharge (minimal residual material)
- > Mechanical & Maintenance Simplicity

Feed Rates:

- > BSP-100 2 to 400 dm³/hr (0.07 to 14 ft³/hr)
- > BSP-135 22 to 4400 dm³/hr (0.8 to 155 ft³/hr)
- > BSP-150-S 34 to 6700 dm³/hr (1.2 to 237 ft³/hr)

BSP-100 in a K4G Blender system with integrated controls



Positive Displacement Principle

Zone 1:
CONSOLIDATION
Interparticle forces produce lock-up at the end of Zone 1.

Zone 2:
ROTATION
Material is in lock-up condition throughout Zone 2 and rotates as a solid body.

Zone 3:
RELAXATION
Interparticle forces fall below lock-up threshold.

Zone 4:
DISCHARGE
Flexible guide aids material discharge.

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Three Models Cover a Wide Range of Needs

BSP-100

The BSP-100 features a single feeding duct formed by two rotating discs. It includes a conical inlet transition piece which can be combined with a variety of standard extension hoppers. A slide gate on the inlet allows for material shut-off and removal of feeder for cleaning and hopper emptying. The BSP-100 is designed for feed rates of 2 to 400 dm³/hr (0.07 to 14 ft³/hr) and is available as a volumetric unit or as a gravimetric unit with a choice of 2 platform scales, single point suspension scale or three-point suspension scale.

BSP-135

The BSP-135 is a slightly larger version of the BSP-100, with all the same features except that it has three feeding ducts instead of one.

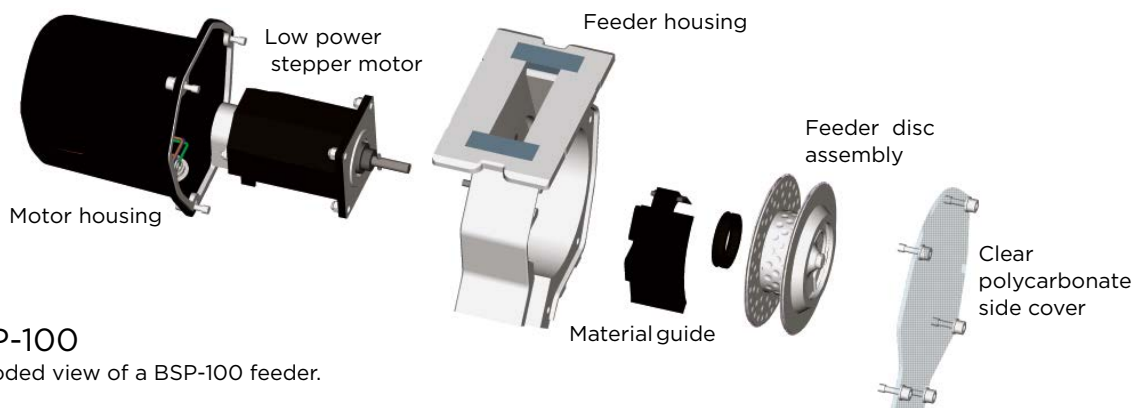
The BSP-135 is designed for feed rates of 22 to 4400 dm³/hr (0.8 to 155 ft³/hr) and is available as a volumetric unit or as a gravimetric unit with a choice of platform scale, single point suspension scale or three-point suspension scale.

BSP-150-S

The BSP-150-S is a 4-duct version based on the same technology as the BSP-100, but manufactured of stainless steel. It also includes an inlet transition piece, as well as a stepper motor and removable material discharge chute.

The BSP-150-S is designed for feed rates of 34 to 6700 dm³/hr (1.2 to 237 ft³/hr) and is available as a volumetric unit or as a gravimetric unit with a three-point suspension scale.

Anatomy of a BSP Feeder



BSP-100

Exploded view of a BSP-100 feeder.

BSP-135

The BSP-135 has a wider feeder housing with three feeding ducts (four discs).

A low power stepper motor drive mechanism and controller provide excellent turndown and flexibility ensuring a very wide operating range.