

Feed System MET L CF

- Feed system for volumetric and gravimetric feeding of bulk solids
- Feed hopper with flexible wall and external discharge aid
- Fast, easy disassembly for cleaning and changing bulk solids
- Integrated measurement, control and regulation electronics
- High feeding accuracy and consistency, below $\pm 0.5\%$



Application

The feeder is used for continuous volumetric and gravimetric feeding of bulk solids such as powders, granulates, chips, flakes and fibers.

Typical applications can be found across the board in all industries, though principally in the plastics, chemicals, foodstuffs, detergents and pharmaceuticals industries.

Design

The MET type CF consists of the feed hopper with a flexible wall, an exterior discharge aid, the feed unit, the extension hopper and a support structure.

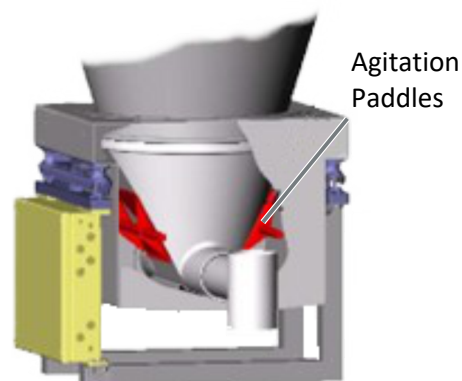
In gravimetric operation, the gravimetric feeder includes two weighing modules.

Paddles move the flexible hopper wall of the loss-in-weight feeder and ensure reliable product flow from the feed hopper into the feed unit.

Feed spirals and screws in single and single-shaft versions are used as feed units.

The extension hopper is available in different sizes for customization based on feed rate and application.

The gravimetric feeder weighing modules consist of hermetically sealed precision load cells using resistance strain gauge technology with integrated overload, lifting and skewing protection. The evaluation and control electronics are integrated into the feeder mechanical system. However, it can also be installed separately if required.



Feeder with external discharge aid

Function

The MET feeder is used as a volumetric feeder or as a gravimetric feeder based on the principle of the loss-in-weight feeder.

In the loss-in-weight feeders, the actual feedrate is determined from the loss in weight per unit of time. A controller compares the actual feedrate with the feedrate setpoint and regulates the feed element.



The geometry of the flexible feed hopper with an axially symmetric hopper inlet is functionally designed for the external agitation principle and ensures a reliable bulk material flow into the dosing element.

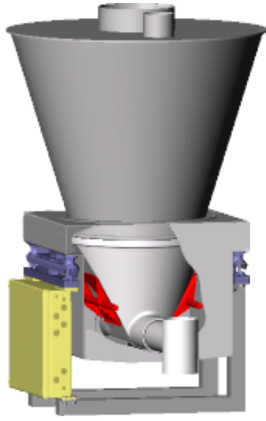
The feeder creates bulk solids handling conditions optimized for high dosing quality and is patent-pending.



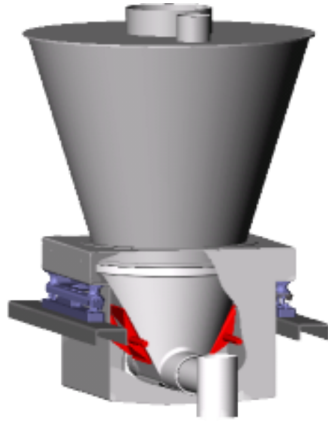
Easy and quick disassembly and assembly of parts in contact with bulk solids for material changeover and cleaning from the rear, the "non-process side," are key advantages of the MET loss-in-weight feeder.



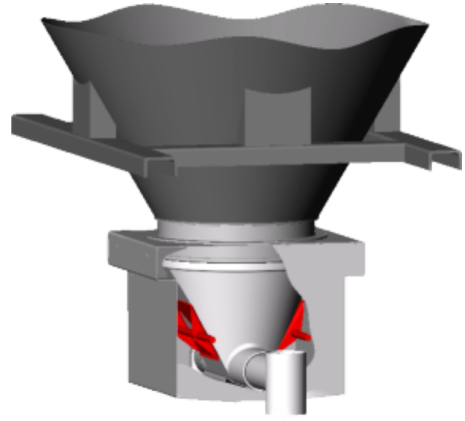
Layout



standing on the platform



installed in the platform



hooked into the bin

Technical Data

Metal parts in contact with bulk material	Stainless steel 1.4404 (316L)
Flexible trough (CF)	PVC, grey or white, FDA conform PVC, conductive, white PUR, white, 3A and FDA conform PUR, conductive, black PUR, toner-resistant, black
Temperature bulks solids	PVC -12 °C ... +80 °C PUR -30 °C ... +90 °C
Ambient temperature	-10 °C ... +50 °C
Material bulk density	0.1 ... 2 kg/dm ³
Design Pressure	-5 ... 95 mbar
Operating pressure	-0.5 ... 10 mbar
Feed rate	5 ... 600 dm ³ /h
Feeding accuracy	±0.5 % (typically)
Feed constancy	±0.5 % (typically)
Drives	AC-drives for feed units and paddles

Design Variants

Feed principle	Gravimetric (loss-in-weight feeder) Volumetric
Feed units	Feed shafts, feed spirals in a single-shaft version Diameter 13 mm, 19 mm, 25 mm, 35 mm
Agitation	External paddles
Feed hopper	Flexible wall
Extension hopper	Volume 30 dm ³ and 83 dm ³



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