

## MechaTron Feed System, Series M – Coni-Flex



- Feed system for volumetric and gravimetric bulk solids feeding
- Coni-Flex feed hopper with flexible wall and external agitation
- Quick and easy dismounting for cleaning and product change
- Integrated measuring, control, and supervisory electronics
- High feed accuracy and constancy, better than  $\pm 0.5\%$

### Application

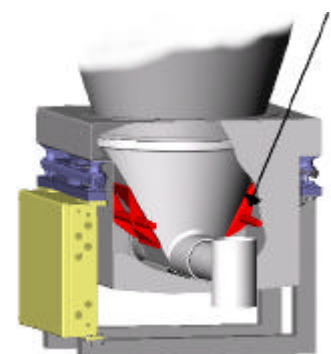
The MechaTron feed system is used for continuous volumetric and gravimetric feeding of bulk solids, e.g. powders, granules, chips, flakes and fibres. Typical applications come up in any industrial area, particularly in the plastics, chemical, food, detergent and pharmaceutical industries.

### Construction

The MechaTron Coni-Flex type is designed with flexible wall, external agitation, feed element, extension hopper and supporting structure. Gravimetric feeders are completed by two weighing modules.

Agitation elements move the flexible hopper wall of the Coni-Flex feed system and ensure reliable material flow from feed hopper into feed element. Feed elements are designed as single-shaft spirals and screws. For adaption to feed rate and application, the extension hopper is available in various sizes. The weighing modules of the gravimetric feeder consist of hermetically sealed precision load cells in strain-gauge technique with integral overload and anti-rotation protections and hold-downs. The weighing electronics is integrated into the mechanical system but can also be installed separately.

Agitation elements



Feeder with external agitation

## Operating Principle

The MechaTron feed system is used as volumetric feeder with controlled prefeeder or as gravimetric feeder operating on the loss-in-weight principle. With loss-in-weight feeders, the actual feed rate is determined from the decrease in weight per unit time. A controller compares the actual feed rate to setpoint and controls the feed element. The new Coni-Flex geometry of the flexible feed hopper with axisymmetrical hopper inlet is perfectly tuned to the external agitation principle and ensures reliable material flow into the feed element. The Coni-Flex feeder provides optimal conditions for high feed quality. The patent is pending.



The MechaTron feed system excels through quick and easy dismounting and reassembly of contact parts for product change and cleaning from the backside, the non-process side. The patent is pending.

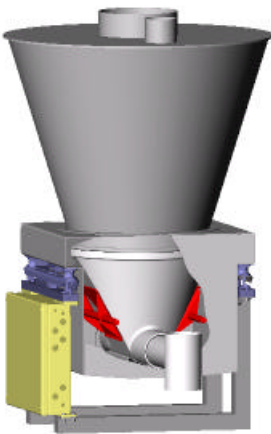
## Technical Data

Metal parts in contact with bulk solid	Stainless steel 1.4404 (316L)
Flexible Coni-Flex feed hopper	Vinyl white or grey; polyurethane grey; Polyurethane black; electrically conductive; Polyurethane toner-resistant
Material temperature	Vinyl -12°C to +80°C, polyurethane -30°C to +90°C
Ambient temperature	-10°C to +50°C
Bulk density	0.1 to 2 kg/dm <sup>3</sup>
Design pressure	-5 to 95 mbar
Operating pressure	-0.5 to 20 mbar
Feed rate	5 to 9,500 dm <sup>3</sup> /h
Feed accuracy	+/- 0.5%
Feed constancy	+/- 0.5%
Drives	AC motors for feed and agitation elements

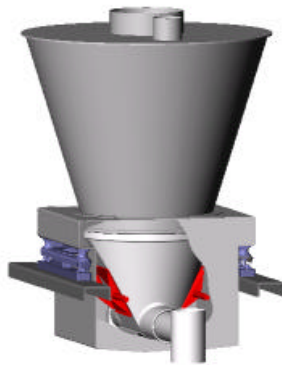
### Variants

<b>Feed principle</b>	Gravimetric (loss-in-weight feeder) Volumetric	<b>Feed hopper</b>	Flexible wall
<b>Feed elements</b>	Feed screws and spirals of single-shaft design, 35 to 89 mm diameter	<b>Extension hopper</b>	75, 210 and 380 dm <sup>3</sup> volumes
<b>Agitation</b>	External agitation elements		

### Possible Arrangements



Standing on platform



Installed in platform



Suspended from hopper



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