

solids *Fine dosing*

The fine art of fine dosing



Gravimetric loss-in-weight scales Fine dosing Opti-feeder FD-SP C or FD-SP B



Fine dosing loss-in-weight scales: Compact line of loss-in-weight scales for materials with varying bulk density: The digital load cell integrated in stainless steel housing is associated with a weight controller. Thus decrease of weight due to powder outlet flow is measured at high frequency.

To reach a better dosing accuracy, the feeder is designed in such a way that only ingredient hopper and extractors are weighed (so load cell with smaller capacity are integrated for a better accuracy).

Two different soft wares are proposed for batch or continuous dosing.

The feeder is controlled with a multitasking operating system combining the functions of an operator interface, weighing controller, PLC and interfaces.

The design is made in agreement with drug and food industries requests for cleaning.

Technical data :

Dosing accuracy (batch)	Standard deviation \approx 0.3 – 0.6 gram.
Min. flow rate (continuous process)	0.05 gram/sec
GMP design	yes
Min dosing time (batch)	From : 3 "

Applications :

- Continuous feeding: For all process application with stability and accuracy of flow rate requested.
- Batch process: Formulation, for minor ingredients. Conditioning...

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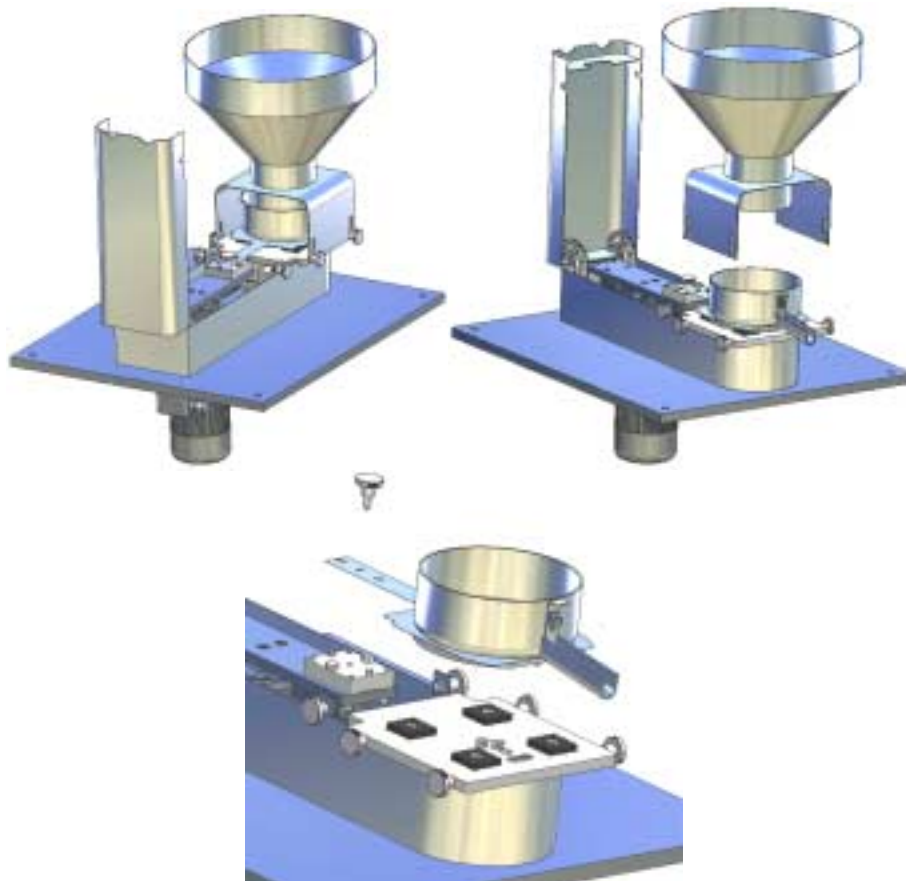
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Cleaning / dismantling : dismantling time below 20 sec, no tool requested.



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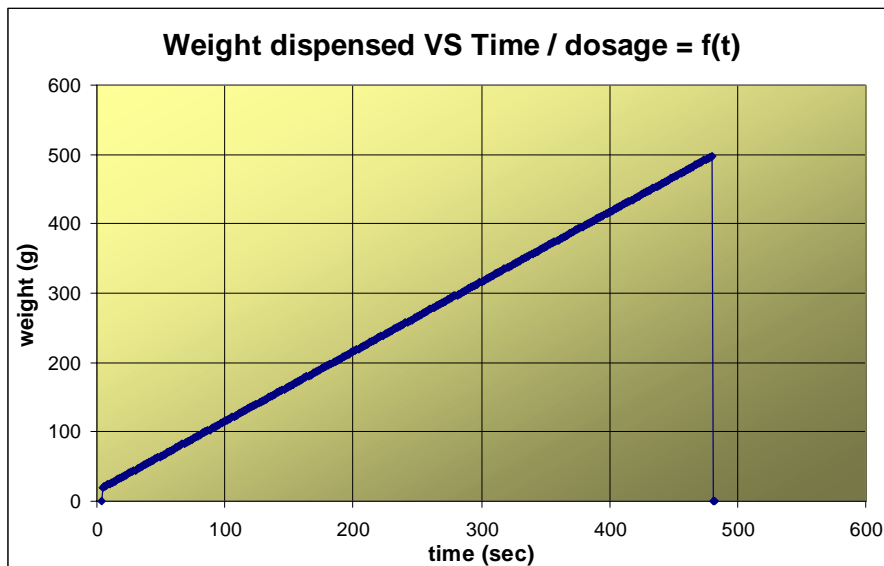
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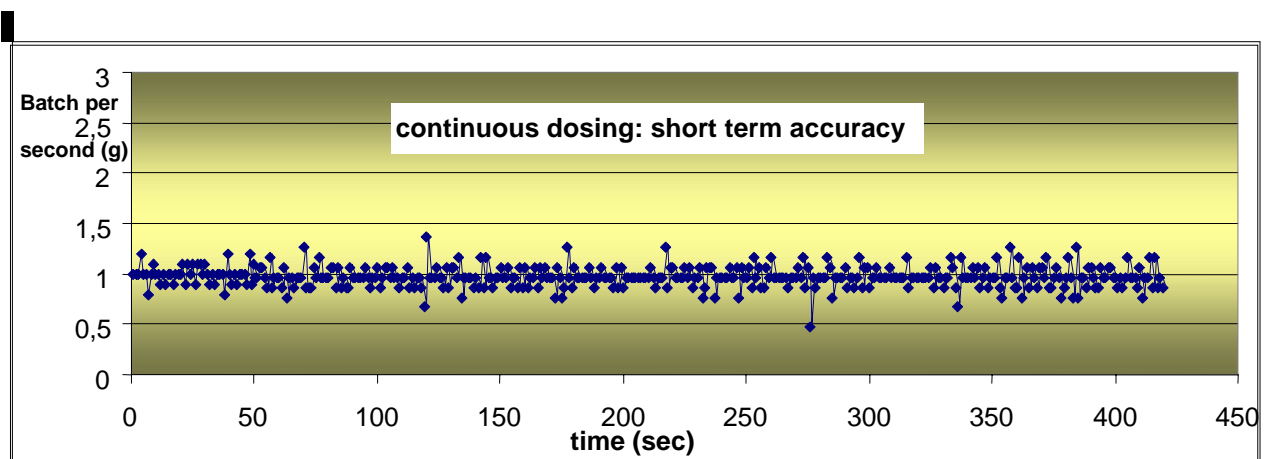
Some results (pilot trials)

Dosing flow stability with flow regulation: 1 gram /sec (aspirin powder).



Accuracy / stability (aspirin powder)

Output flow is weighed on a balance, and data are bridged to a PC at a constant time-based interval (1 sec). The resulting standard deviation is 0.1gram, a very stable output flow (free of pulses) is observed.



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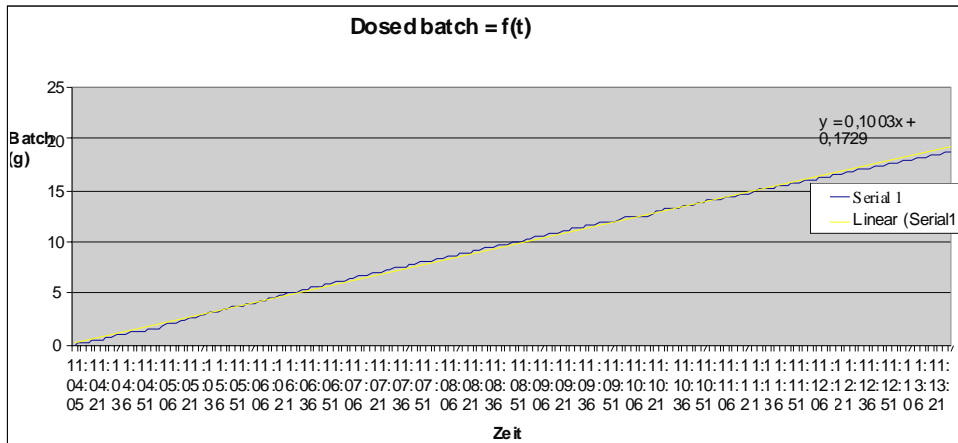


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Continuous feeder: 2 gram/min. Performances even very low output flow rate



Batch feeder

Type of ingredient	Dosing set point	Dosing time	Standard deviation
Die	35 g	7 sec	0.7 g
Die	100 g	9 sec	1,0 g
Die	12 g	30 sec	0.2 g
Flour	80g	5 sec	0.7 g
Alum	1400 g	10 sec	3 g
Semolina	50 g	8 sec	0.5 g
Semolina	3 g	3 sec	0.3 g
Semolina	21 g	3 sec	0.63 g
Tablets ø 5mm	45 g	8.0 sec	0.31 g
Tablets ø 5mm	7 g	4.5 sec	0.28 g

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