

The fine art of fine dosing

Powder micro dispenser of high accuracy

Fine dosing Opti-feeder FD- SP A



MCPI Fine dosing® technology is dedicated to highly precise powder dispensing

Micro feeders **MCPI Fine dosing SPA** are probably the first on the market to reach such high levels of excellence in term of accuracy, short dosing time and flexibility.

The patented principle of extraction is able to create high density shear forces to cut bonds existing between the particles of powder. This energy is sufficient to reduce the size of agglomerates, but too small to modify the particles by reducing their size.

Thanks to this principle it is possible to get an accurate control of flow rate with coarse and fine flows and to reach high level of accuracy with reduced dosing time. Fine dosing concept allows a ratio between coarse/ fine feeding over 100. This figure is a key point to reach fast dosing process and accuracy.

The ingredient is dosed in a small swivelling bowl fitted on an accurate load cell or directly in the packing lay on the balance.

The integrated batch controller optimizes coarse and fine feeding with automatic tolerance control.

A winning technology

Fine dosing FD SP A – 0414

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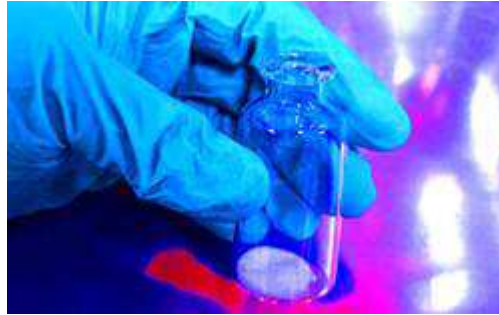
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An original and innovative extraction of material:

The oscillating mechanism gives a dissymmetric to-and-fro movement. In this movement, the return speed is faster than the forward direction speed. The forward direction is corresponding to the direction of material transfer. To illustrate it, imagine the following experiment. Take a coin on a paper sheet. Move the sheet with an alternate movement whose return speed is higher than forward way. You can see that the coin is moving on the sheet...



Technical data



The **MCPI Fine dosing® SPA** micro feeders are designed for the accurate dispensing of powders and granules.

3 essential characteristics, highly appreciated by our clients can be highlighted:

- Dosing accuracy: to meet process and quality demands
- Short dosing time: to optimize investment and operating costs
- Hygienic design: to prevent contamination and reduce downtime.

Plus: An absence of particle size discrimination (with the patented extraction principle), the reliability (mechanical cam system running in an oil bath), a friendly design weighing controller, and finally, the customization for each application.

2 design configurations are proposed: To offer the possibility of integrating these micro-feeders on automated lines, or to offer simpler systems.

	
<p>Dosing in a weighed rotating bowl (feeding is performed in "hidden time", during manipulation of the packing). This design is advised for integration on automatic lines.</p>	<p>Direct dosing in the packing placed manually on the balance.</p>

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Traceability:

Provides proof of feeding quality for third parties, enables users to optimize settings and monitor production operations.


The analysis of results can be carried out on Excel ® software.

Feeder numb	Product	ID numb	date & hour	Feeding result	set point	in/out tolerance
1	Mg Stearate	202011-1	2010-11-04 15:09:56	6.94	7.00	OK
2	Mg Stearate	202011-1	2010-11-04 15:10:24	7.05	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:10:47	6.97	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:11:07	6.98	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:11:18	7.0	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:11:28	7.02	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:11:38	6.99	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:11:49	6.97	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:12:02	6.98	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:12:18	7.00	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:12:30	7.00	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:12:46	7.02	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:12:47	7.05	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:13:03	7.01	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:13:09	7.02	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:13:17	6.98	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:13:25	6.93	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:13:34	7.02	7.00	OK
1	Mg Stearate	202011-1	2010-11-04 15:13:44	6.97	7.00	OK



Features:

4 levels of accuracy of the scale are proposed:

Class	Weighing resolution of the scales	Min. quantity	Max quantity	 <p>For batch feeding of dry materials</p>
A	100 mg	> 10 g	~ 20 kg	
2A	10 mg	> 250 mg	~ 500 g	
3A	1 mg	> 100 mg	~ 100 g	
4A	0.1 mg	> 20 mg	~ 10 g	

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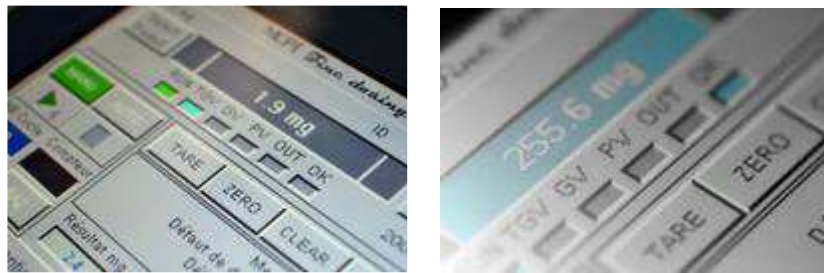
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	<p>Hygienic design according the definition of EHEDG (<i>European Hygienic Engineering and Design Group</i>):</p> <ul style="list-style-type: none"> • Simple design rules to ease cleaning operations. • Easy access to all machine surfaces for cleaning, disinfection and inspection • Eliminating hidden areas where deposits and biofilm can accumulate • All surfaces in contact with the material are "FDA" conform .
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Weighing controller



User interface	6" high quality colour touch screen display with graphical information. Easy to use and understand, dedicated to feeding process.
Weighing technology	100 000 resolution points, short reaction time based on an efficient signal filtration system.
Product parameters storage	<u>500 product recipes</u> can be stored, for flexible and safe operation.
Data storage	<u>800 000 feeding results</u> are memorised in the controller data exchange with USB stick or network connection.
Feeding operation	<ul style="list-style-type: none"> • <u>3 feeding flows</u> operation (coarse, medium and fine), to optimise accuracy and dosing time. An MCPI exclusivity to benefit from the advantages of MCPI Fine dosing® technology • Inverter frequencies (corresponding to coarse, medium and fine flows) are integrated and stored in each product recipe , they are configurable from the touch interface. • Automatic correction of overshoot, with setup of the maximum correction interval.
Safety	Protection with 4 separate pass words:

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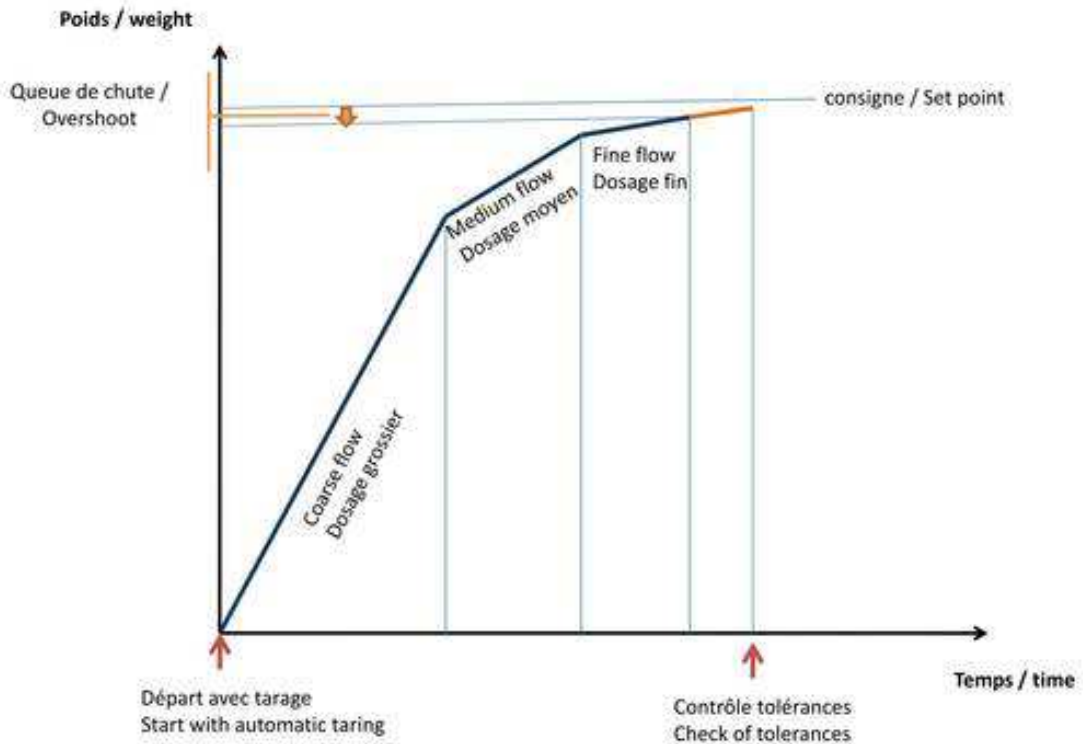
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	<ul style="list-style-type: none"> • One for maintenance parameters (including calibration) • 3 levels for production: one free + 2 different pass words for operator and supervisor • All recipes can be transferred to a USB stick.
Communication	With all major field buses.
Multi controllers	Versions to command 2 - 3 - 4 feeders with the same screen are proposed.

3 feeding flows operation (coarse, medium and fine), to optimize accuracy and dosing time



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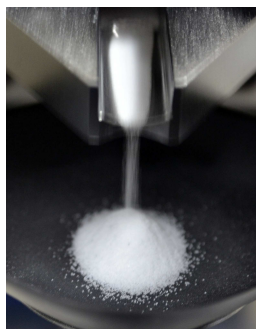
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MCPI Fine dosing® SPA technology was rewarded at
POWTECH Nurnberg Germany, 2009



"The products say it all"



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