Flexible and reproducible dosing for maximum yield

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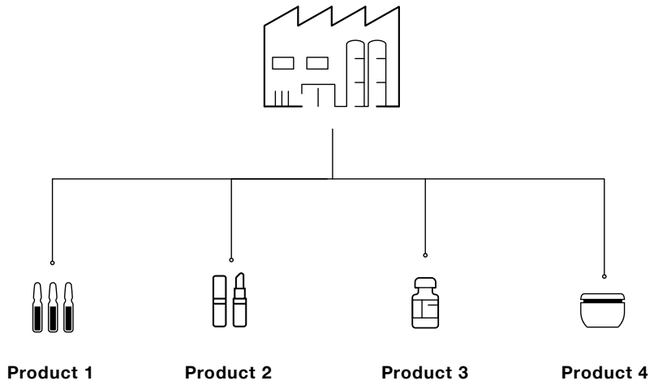
/ Correct dosing is critical / Your selected dosing unit must move mountains to ensure that the tiniest volumes of liquid flow quickly, precisely and with repetitive accuracy in your filling machines. Are you looking for a partner to get this under control for you? Opt for a system solution that meets your requirements for a reliable filling process while boosting production output of your plant.

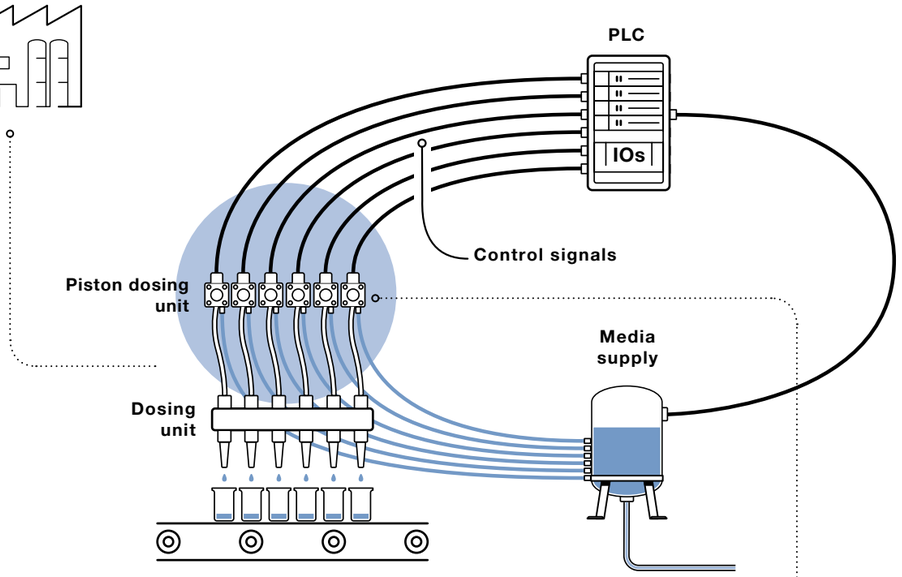
A plant engineering company

develops and manufactures filling machines that package a variety of products. Reliability, hygiene, precision and flexibility are top priorities when it comes to ensuring seamless filling.



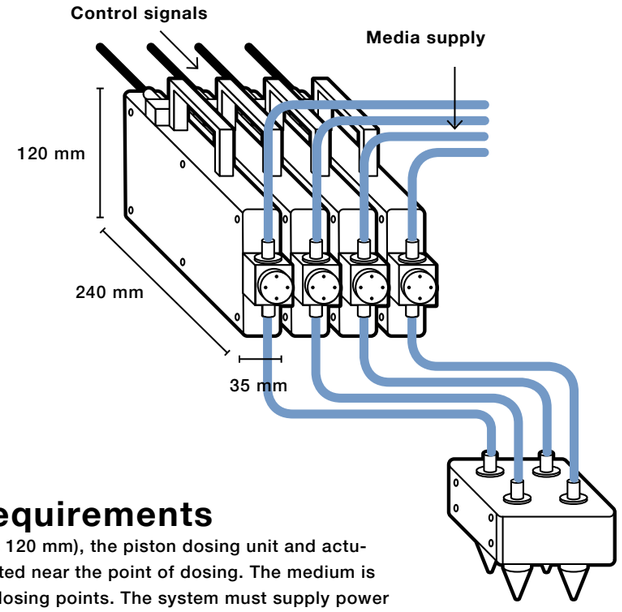
Do you want to maximise your plant efficiency? We are happy to support you in this task.

/ Cutting complexity / Every cubic metre in an industrial plant costs money. Conventional piston dosing units are large, expensive to purchase and take up a great deal of space in the plant because their size prevents them from being located at the dosing point. If the number of packages that must be filled simultaneously increases, this adds to the complexity.



Requirements for a reliable filling process

The tiniest liquid volumes must be dosed to the nearest µl under hygienic conditions with a high degree of repetitive accuracy at intervals of one second around the clock. Other important factors are quick media changes and flexible dosing volumes. Automated cleaning operations reduce plant downtimes.



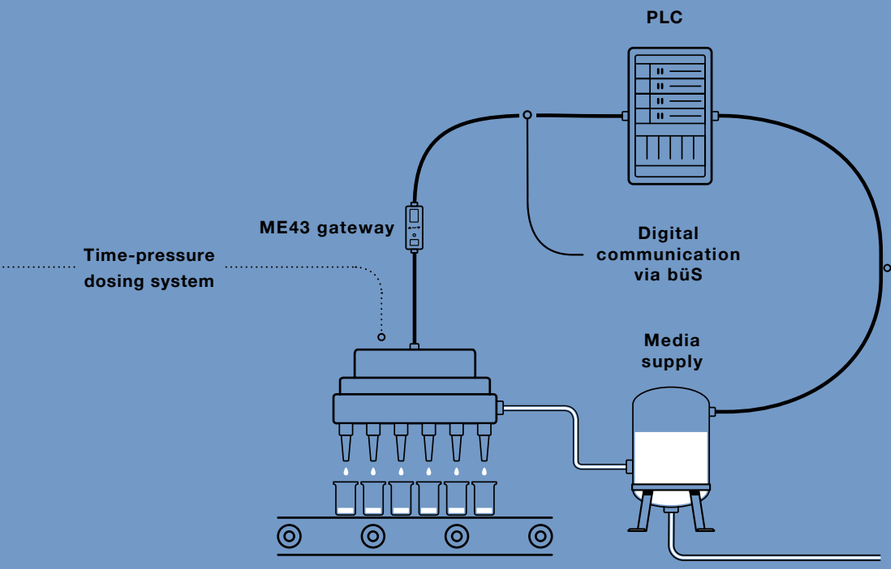
High space requirements

Due to their size (35 x 240 x 120 mm), the piston dosing unit and actuator cannot be accommodated near the point of dosing. The medium is conveyed via hoses to the dosing points. The system must supply power and signals to each dosing head separately. In addition, every dosing head requires its own product feed line – resulting in metres of cables and lines.

Downtimes

After each batch process, the plant must be cleaned. The dosing heads are removed, sterilised by a service provider, packed under sterile conditions and installed again. The result: Long downtimes and a high workload.

/ Compact and flexible / Fewer cables, more communication: With the Bürkert solution, you'll cut complexity and gain space. The dosing system is connected by the digital interface, the Bürkert system bus (büS), via the fieldbus gateway to your controller.
This allows you to vary the dosing volume in real time – easily and flexibly.



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Higher yield

Thanks to time-pressure dosing with the 2/2-way dosing valve Type 6712, we ensure reproducible and precise dosing with a flexible dosing volume – and therefore a higher yield.

Reduced installation space

The compact dosing head with quadruple dosing points takes up much less installation space than conventional solutions. A single data connection to the PLC is all that's required and even the number of hoses for media supply is reduced.

Increased process reliability

Integrated pressure sensors and a digital interface to the PLC optimise process control and monitoring. In the event of process faults, for instance, if particles block the dosing heads, the system indicates an error message.

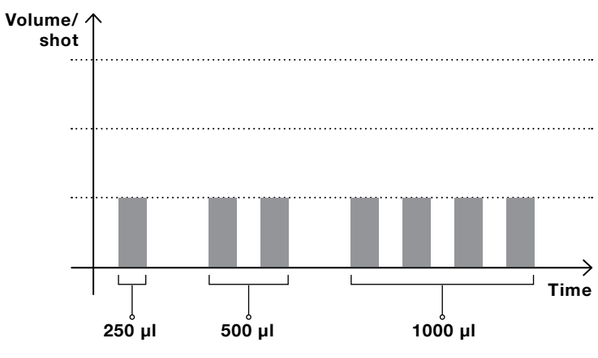
Greater availability

Thanks to reduced downtimes, your plant availability is improved. Costly and laborious cleaning cycles are eliminated. If a product is changed, the dosing heads can be cleaned without removing them from the plant.

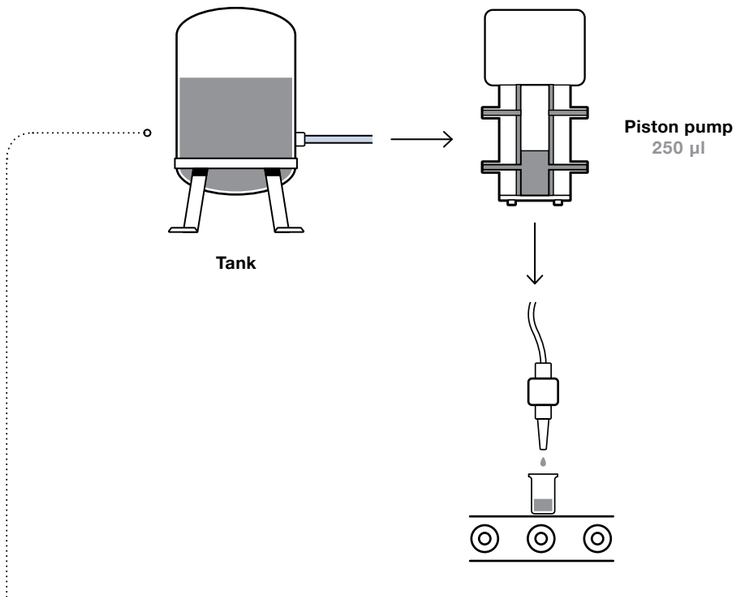
Reducing the number of interfaces

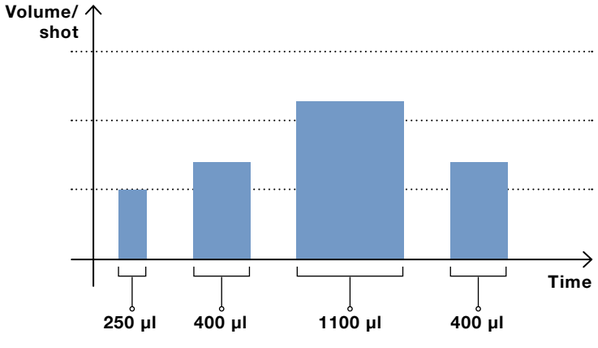
From the dosing head to the provision of dosing and cleaning media all the way to installation and training, you receive everything from a single source. This reduces the number of interfaces, saves time and avoids stress.

/ Flexible dosing, more filling / With a piston dosing unit, you are always tied to a predefined dosing volume. Each additional suction stroke costs time and causes wear. With the time-pressure dosing system, on the other hand, you can specify flexible volumes to be dosed to the nearest microlitre.

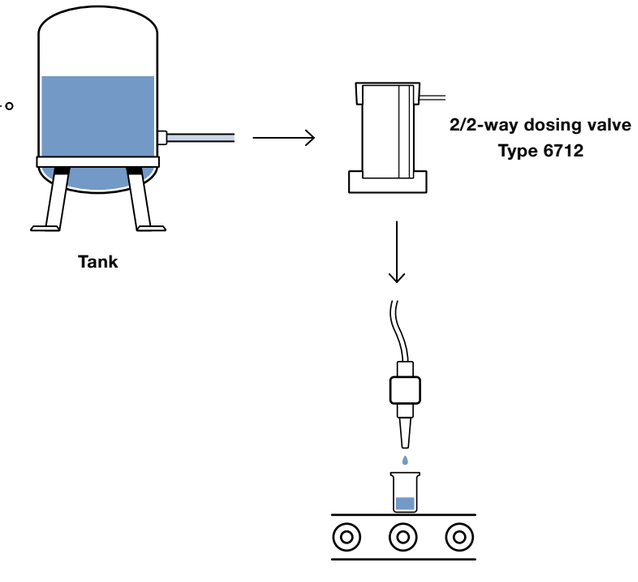


Dosing with piston dosing unit
A piston dosing unit is always designed for a specific dosing volume. The dosing volume can only be multiplied if you repeat the dosing cycle accordingly.

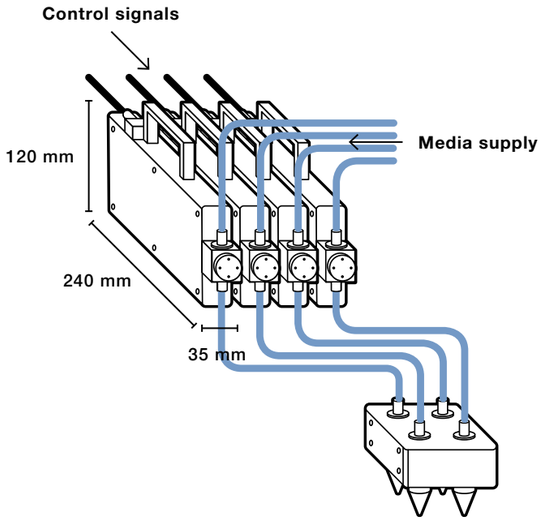




Dosing with the time-pressure dosing system
With the compact solution, you dose precisely and repeatably using flexible dosing volumes in a very short time.

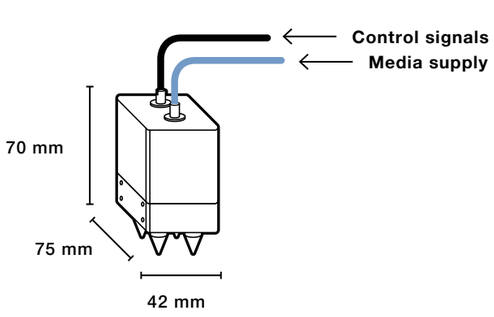


/ Quick replacement instead of costly downtime / Remove dosing heads for cleaning, send for sterilisation and then install again? You can leave this procedure behind once and for all. After a product change, the dosing heads by Bürkert can be cleaned and sterilised automatically in the machine. In this way, you can fill more product and boost your plant availability.



Conventional solution

The dosing heads are removed for cleaning. You need to hold a second set in reserve - at a further cost to you.



Bürkert solution

You no longer need to source individual components of your dosing unit from different suppliers. Instead, you can enjoy the benefits of seamless dosing with a compact, customised system solution and a single contact partner.

Example calculation

Seamless dosing: The plant must be cleaned after every batch operation. It takes four hours to exchange 20 piston pumps. During this time, your plant could have filled 96,000 packages. With the Bürkert solution, your plant is only shut down for one hour. You gain: 72,000 packages.

Filling process

1 piston pump fills **20** packages per minute

20 piston pumps create **24,000** packages per hour

Cleaning process

Piston dosing unit	**4** hours x 24,000 packages	**-96,000** packages
time-pressure dosing system	**1** hour x 24,000 packages	**-24,000** packages

Difference = **72,000** packages

An additional **72,000** packages can be produced thanks to the shorter downtime.

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Dosing

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