

High-Speed Precision Dosing System

based on KTW Smart Realtime Valve Technology

Advantages

- Highest precision (flowmeter controlled)
- High speed (up to 50 Hz.)
- Large flow rate range (0.01 ml – several L)
- Long service life (>5 bn. cycles)
- Documented dosing volume
- Low maintenance (low friction, minimal mechanical stress)
- Heat-resistant, non corrosive
- Footprint optimized
- Energy-efficient (no pneumatics required)
- All types of bottles, cans, cups, cartons and other containers possible

Dosing

- Flavor
- Beer
- Beverages
- Near-water Drinks
- Hard Seltzer
- Pulp-free Juices
- Energy Drinks
- Coffee
- Alcohol
- Nitrogen
- Gas
- Viscous liquids (particle-free)

Your Benefits

- Higher equipment utilization
- Elimination of product-related constraints
- Flexible usage of entire bottling plant
- Shorter cleaning cycles
- Less Operating and Capital Expenses

Design

- Dosing Module
- Stand-alone System
- Single / multiple Shots
- Linear / carousel
- Retrofit or extension to existing lines
- Customized solution



„Our High-Speed Precision Dosing System redefines the terms 'fast, flexible and reliable' for modern filling technology.“

Today's Challenges

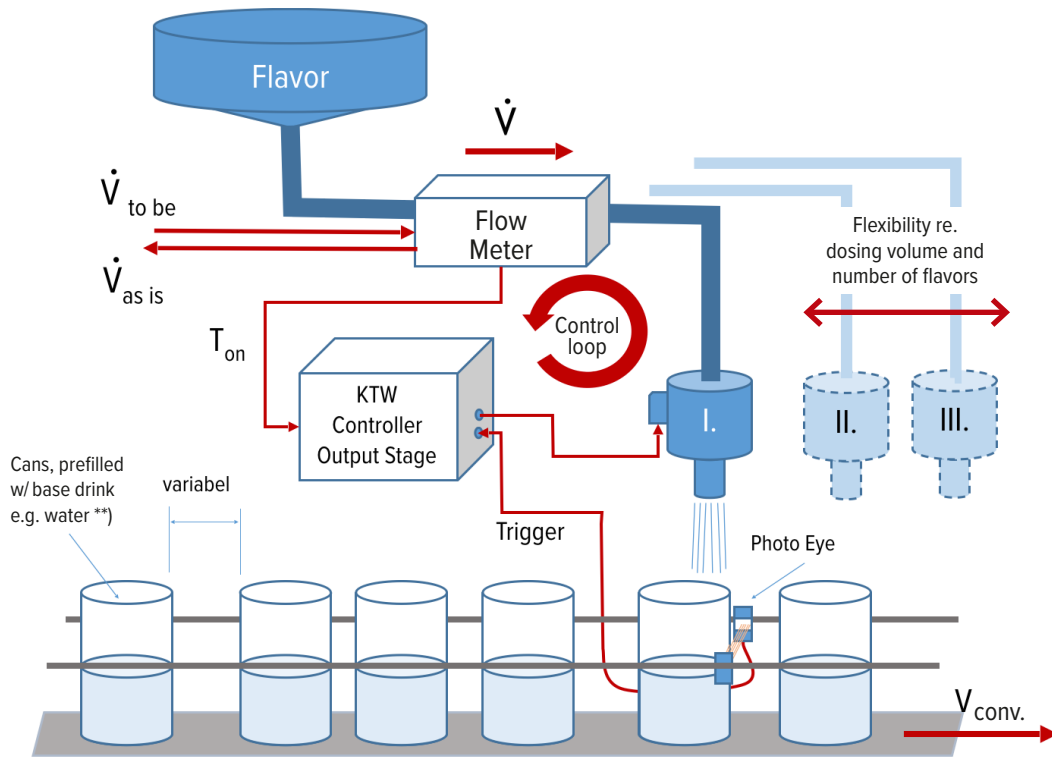
- Expensive, complex production equipment designed for large production batches and few product variations
- Limited flexibility leads to reduced utilization and significant idle capacities
- Extensive cleaning and changeover times
- „Energy drinks“ with risk of residual smell
- Limitations of valve technology:
 - limited number of cycles due to springs, spindles, diaphragm, etc. (<< 0.5 - 1.0 bn.)
 - Limited dosing frequency (< 1 - 5 Hz.)
 - regular maintenance/replacement work (5 - 8% per year), high maintenance costs
 - Pre-determined volume limits flexibility (volumetric valves), repetition accuracy of approx. 0.5 - 2%

KTW Dosing Technology

- Separate filling of flavor and base drink replaces large batch production approach
- Higher output per minute due to fast switching, realtime valves (up to 3,000 shots per minute)
- Flexible volume application through
 - change of T_{ON} of valve (for each shot)
 - multiple shots through multiple valves
- Single and multiple shot filling with documented filling results
- Less maintenance costs through extended service life of valves (>5 bn. switches)
- Flexible filling strategies / recipes (per shot)
- Highest repetition accuracy due to self-optimizing control loop (<0.5 % *)
- Enabling technology for high capacity utilization and reduced operating costs
- Three performance classes available

*) depending on selected flow meter

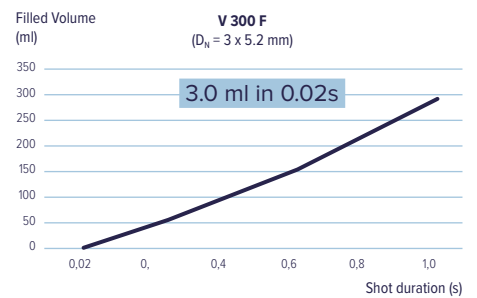
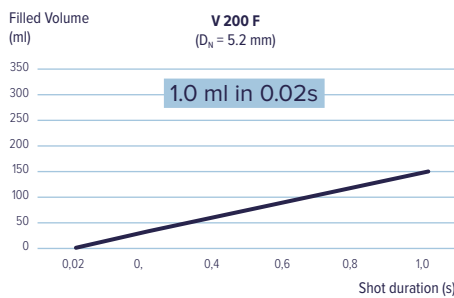
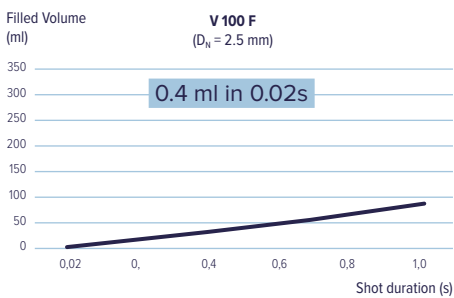
Functional principle:



***) Alternatively, flavor can also be prefilled in empty container before filling, e.g. if larger amount of flavor required

Performance Classes:

- Three sizes available, dependent on KTW Realtime Valve used (V 100 F, V 200 F, V 300 F)
- Volumes shown in diagrams equal maximum dosage flow rate, can be reduced by shorter T_{ON}



(Water, filled at 3bar pressure difference)

Producer,
your representative in Europe:

KTW Technology GmbH
Gleeser Straße 14
56653 Wehr
Germany
Phone: +49 2636 807773
Mail: info@ktwsystems.de

Your representative in North America:

PHIR Technologies, Inc.
1005 Richards Road, Ste. P
Hartland, WI 53029
USA
Phone: +1 262 751 3073
Mail: sales@phirtechnologies.com

