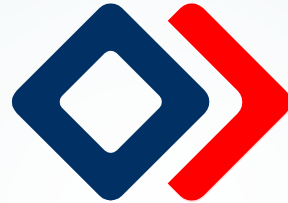


ONLINE
KENNISWEEK

FOOD & BEVERAGE

9-13 november 2020

Technische innovaties en ontwikkelingen



Bronkhorst®

Food & Beverage online kennisweek FHI

Jethro Molenaar & Erwin Eekelder

10-11-2020



Bronkhorst – Food & Beverage



Customer Case: Chocolate Production



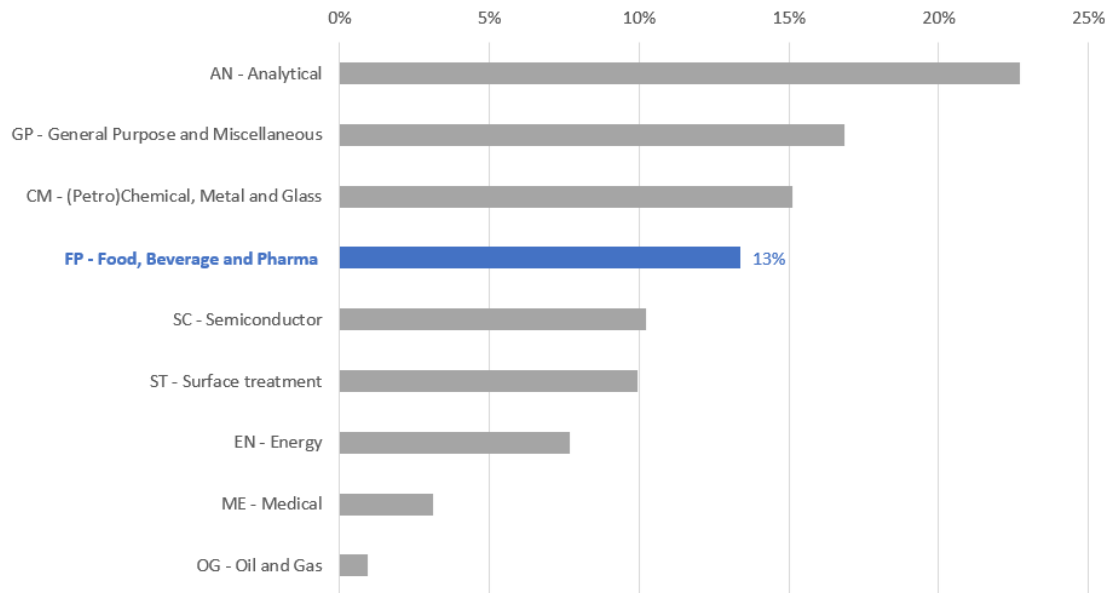
Production Efficiency, Traceability & Quality
Flow Control Solutions



Hygienic Requirements
Flow Controller

Facts & Figures

Market Segmentation



Global Presence



Challenges

- ◆ Producing large portfolio of high-quality flavored chocolate
- ◆ Chocolate manufacturing line is standard not equipped with liquid dosing technology
- ◆ Required flavor control between 0.4 to 4 l/h
- ◆ Making use of a manual adjustable pump
- ◆ Product changeovers are time consuming

WEINRICH'S
1895
Finest Chocolate



Customer Case: Chocolate Production



Company Goals

Decrease Downtime & Waste

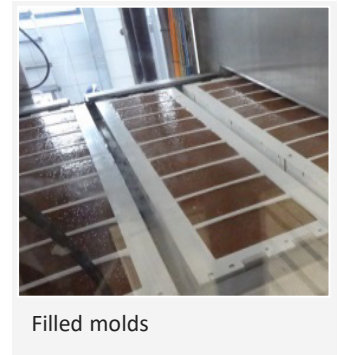
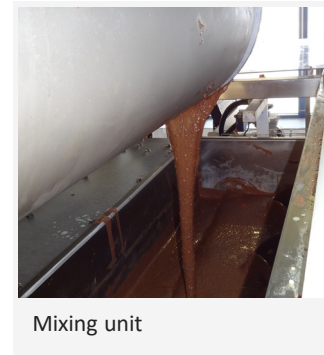
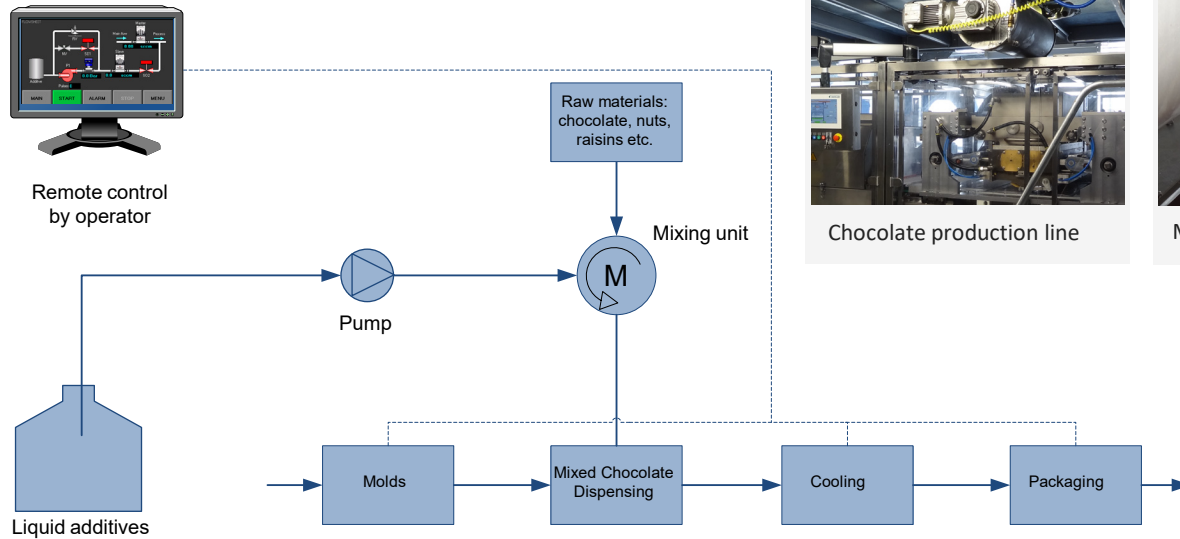
Improve Product Consistency & Quality

Increase Production Flexibility

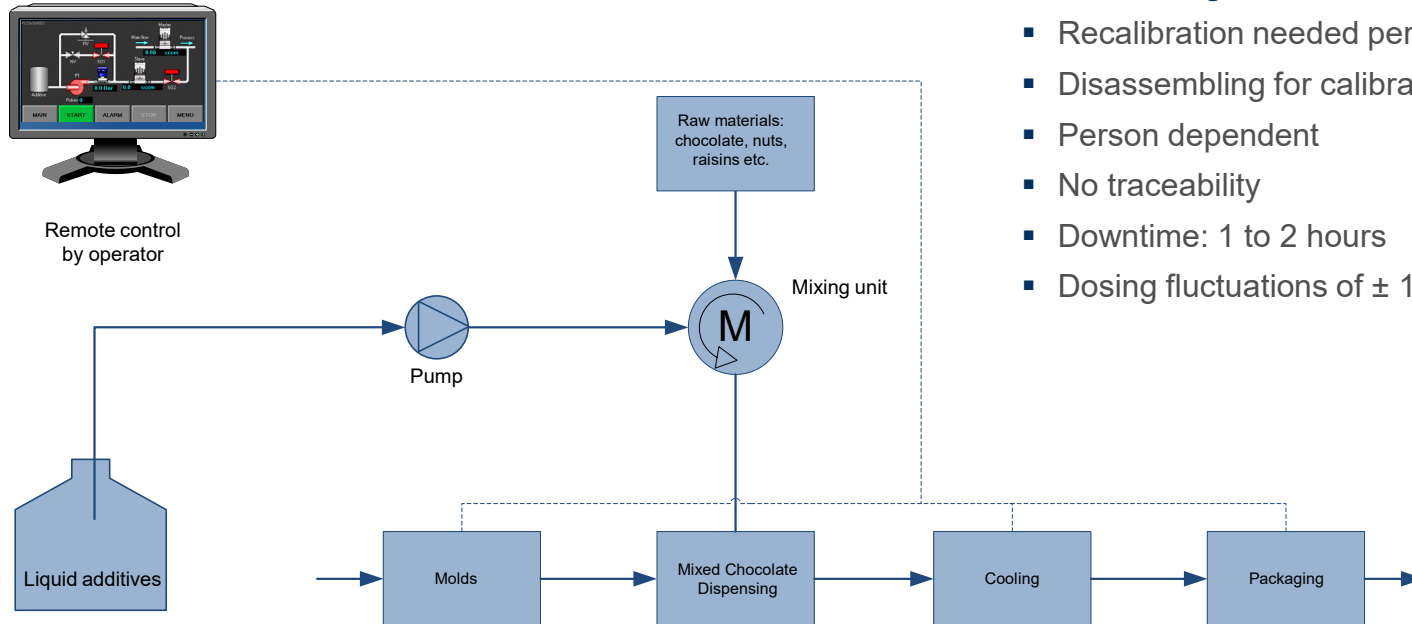


Customer Case: Chocolate Production

Production Process: old situation



Production Process: old situation

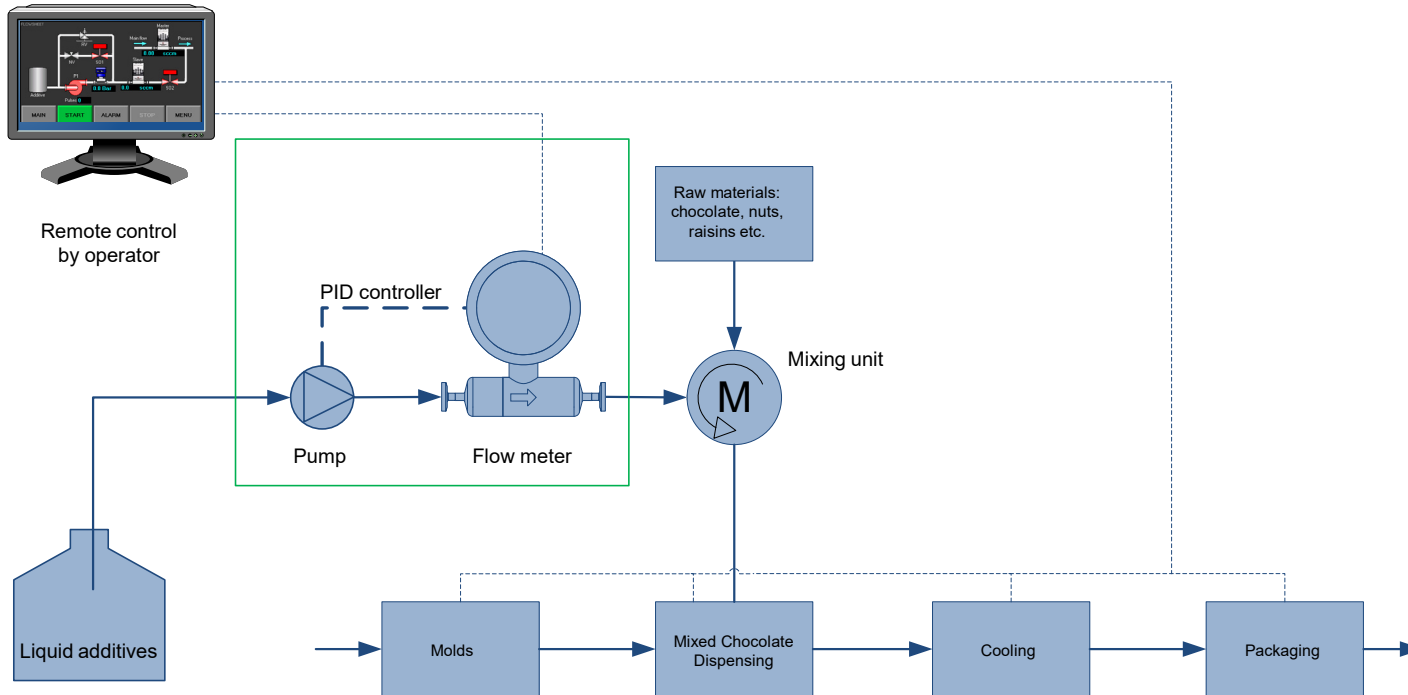


Disadvantages manual dosing pump:

- Recalibration needed per product changeover
- Disassembling for calibration on a scale
- Person dependent
- No traceability
- Downtime: 1 to 2 hours
- Dosing fluctuations of $\pm 15\%$

Customer Case: Chocolate Production

Process Solution: Pump Control by Flowmeter



Customer Case: Chocolate Production



Decrease Downtime & Waste

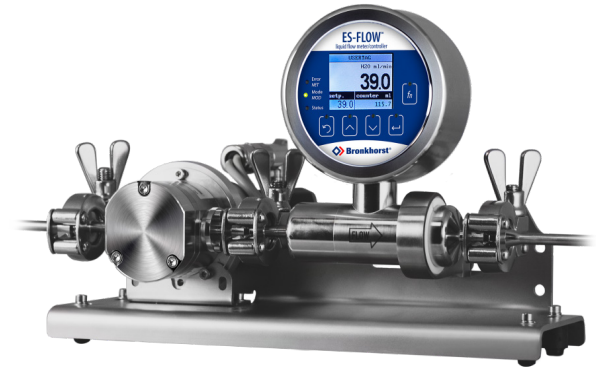
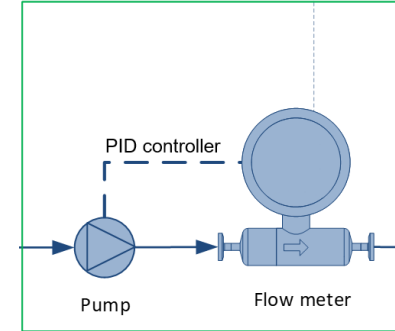
User friendly operation/control

High rangeability 0.3 to 30 l/h – without recalibration

Immediate setpoint change – fast dosing adjustment

Easy to clean – CIP or SIP

Programmable alarms (dry-running)



Customer Case: Chocolate Production



Improve Product Consistency & Quality

Flow Control Stability & Accuracy: < 1%

Traceability: Measurement / Totalizer

Similar Taste

Hygienic Design:

- (EC) No. 1935/2004 and 2023/2006
- 3-A Sanitary Standards



Customer Case: Chocolate Production

Increase Production Flexibility

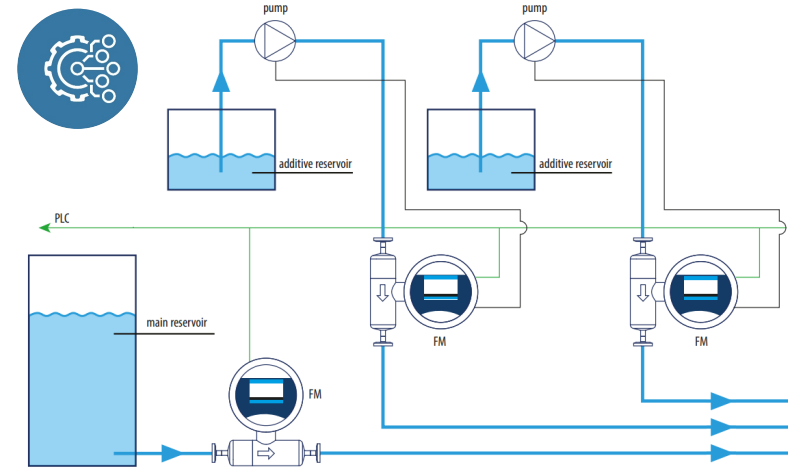
Liquid independent flow control on volume & mass

Change production recipes within minutes

Production planning – changeovers

More flexible to handle (small) customer specific requests

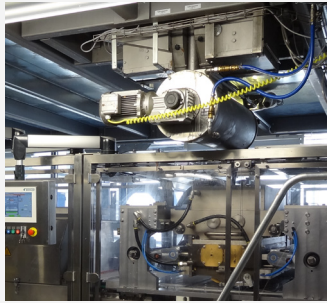
No more overtime shifts prior to Christmas/Easter



Customer Case: Chocolate Production



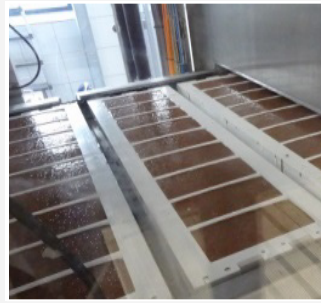
Bronkhorst® dosing unit integrated in a chocolate manufacturing line



1. Chocolate production line



2. Mixing unit on top of the molds for adding liquid additives, nuts, raisins etc.



3. Chocolate molds



4. Bronkhorst additive dosing unit for liquids (inside)



5. Hygienic alternative: Pump control by Flowmeter

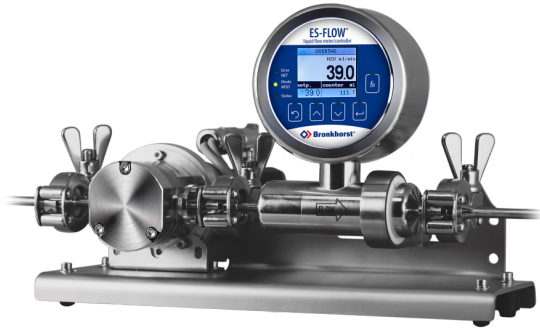
Experiences of Weinrich Chocolate

- ◆ “We were surprised how fast we can switch between setpoints”
- ◆ “Every employee can work with the system”
- ◆ “The accuracy of adding flavors is significantly improved”
- ◆ “We are more flexible to handle (small) customer specific requests”
- ◆ “No more overtime shifts prior to the holidays”
- ◆ “We are very satisfied with this solution”

Ultrasonic Hygienic Flow Controller

Configurations

ES-FLOW™ Technology



ES-FLOW™ Direct Pump Control – 0...90 l/h



ES-FLOW™ Direct Valve Control – 0...90 l/h



- ◆ Compact & Liquid Independent Flowmeter
- ◆ Hygienic, straight sensor tube design (SS316)
- ◆ 3-A Authorized - CIP/SIP-Cleanable

Application Example Candy Production





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Bronkhorst® **Performance for Life**

Innovation - Experience - Responsibility

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