Modern Filling Systems for the Wine and Sparkling Wine Industry

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Trends in Glass Filling

Level control filler with electropneumatic control unit

Flexible filling phases

Effective CIP cleaning

Better outside cleaning

Highest level of process safety and reliability

Increasing levels of efficiency

Transparent and reproducible process control

Extremely accurate filling

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Possible Filling Systems for non-carbonated Wine and Sparkling Wine

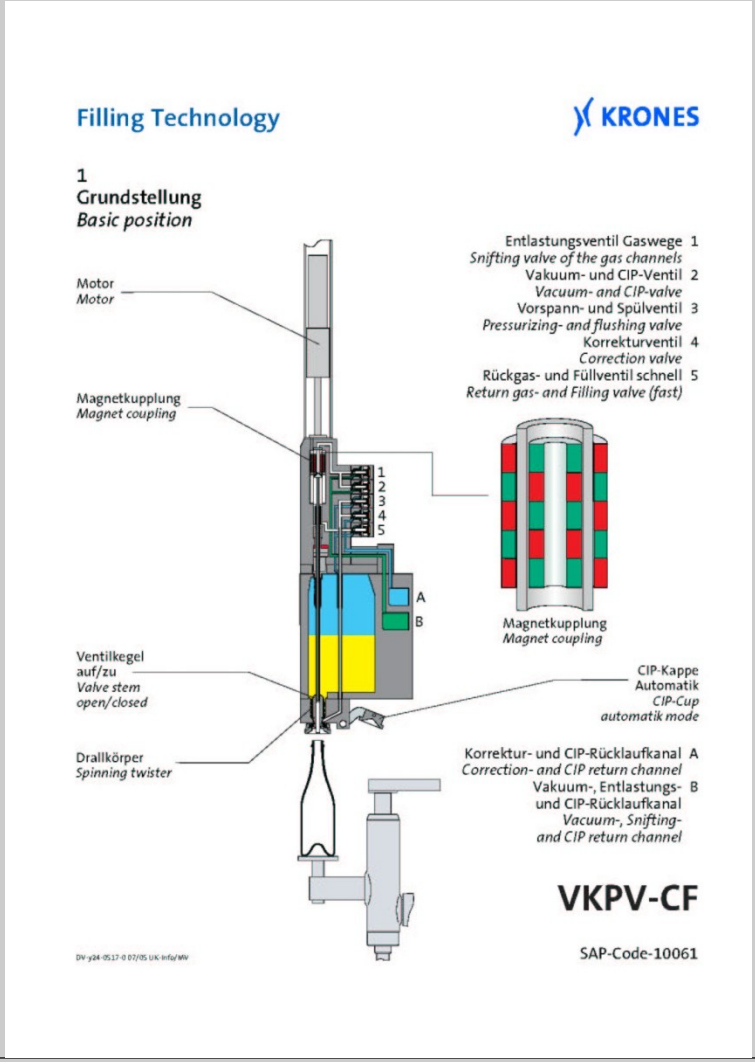
	Non-carbonated wine	Sparkling wine and non-carbonated wine
Mecafill	VKPV-CF Exhibit: VKPV-CF with automatic adjustment system	
Sensometic (short tube)	VPVI VPVIM	
Sensometic (long tube)	VPGL	VPL
Isofill	VV-CIP	

Flexibility: Automatic Vent Tube Adjustment

- Stepless adjustment of vent tube
- Servo motor drive
- Speed control and zero point query
- Positioning accuracy of 0.1 mm
- Filling height selection on touch-screen
- Use of swirl insert (spinning twister) eliminates the need for a spreader

Customer Benefits:

- Greater flexibility
- Shorter conversion times



Process / Process Safety

CIP cups swing in in 2 minutes

CIP cups are self-emptying

Customer Benefits:

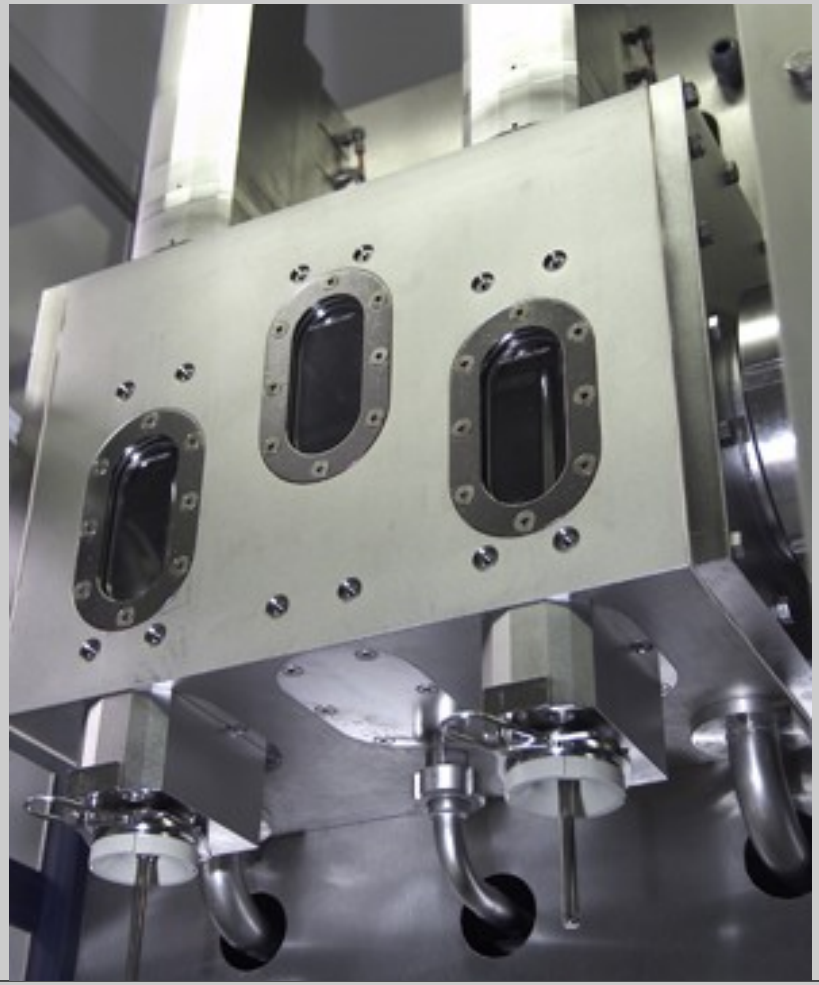
Shorter conversion times

Increased process safety

No manual work necessary

Quality: Highest Filling Accuracy and Product Quality

- FIlling height standard deviation of sigma = 1 mm
- No damage caused to vent tube by return motion
- Minimum oxygen absorption with multiple evacuation
- Dry initial tension
- Fast filling valve change



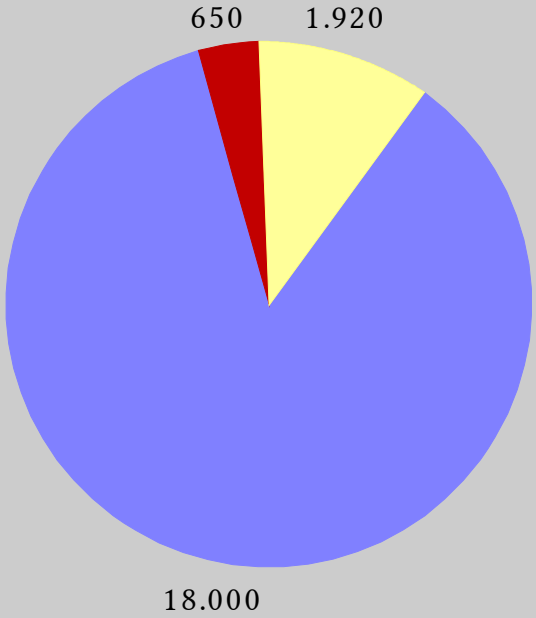
Customer Benefits:

- Greatest possible filling accuracy
- Low rejection rates
- Enhanced product quality
- Increased efficiency

Costs: Smaller Machine with the Same Output

Vent tube is only retracted to correct filling height

- Maximised filling angle through minimised stroke
- Shorter overall filling time



126-valve filler
Sparkling wine 4 °C / 10 g
750 ml bottle output per hour

Standard filler
Angular gain
Higher filling speed

Customer Benefits:

15 percent more output:
Higher output with comparable filler size
or

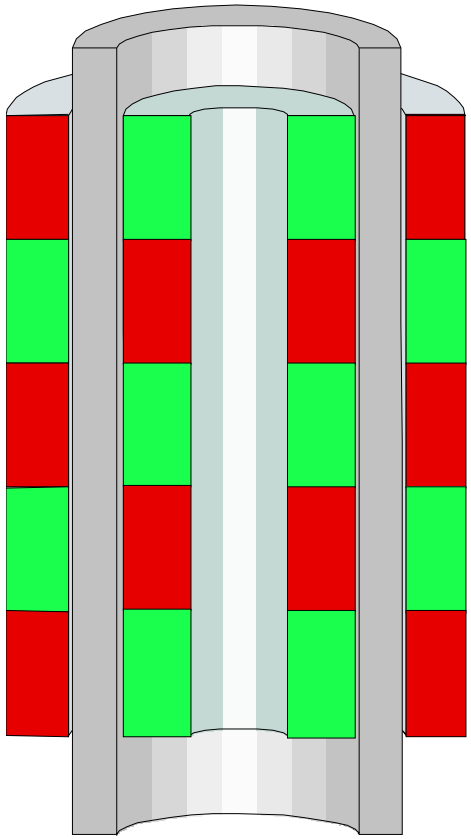
Lower investment costs:
Smaller machines with comparable output

Microbiology: Consistent Hygienic Design

- Wear-free magnetic clutch
- Hermetic separation of drive side and product sid
- No dynamic gasket
- Hygienic design

Customer Benefits:

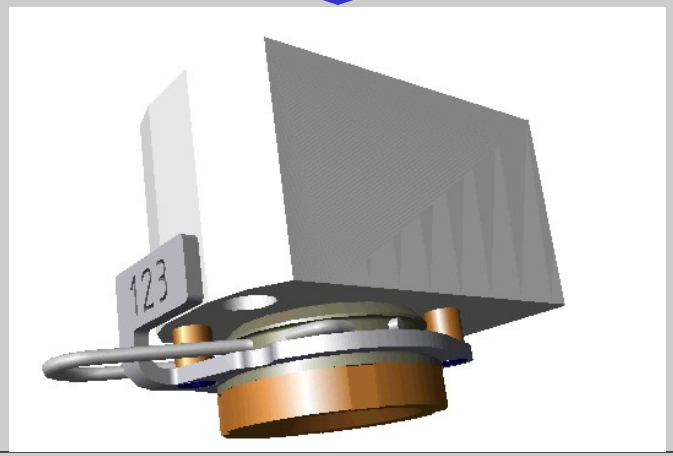
- Microbilogical secure system



Magnet coupling

Microbiology: Consistent Hygienic Design

- No centring bell connecting rod / bell lifting cam
- Optimised cleaning or gush-jet shard removal with less surfaces, with simpler design
- No assemblies above the open bottle

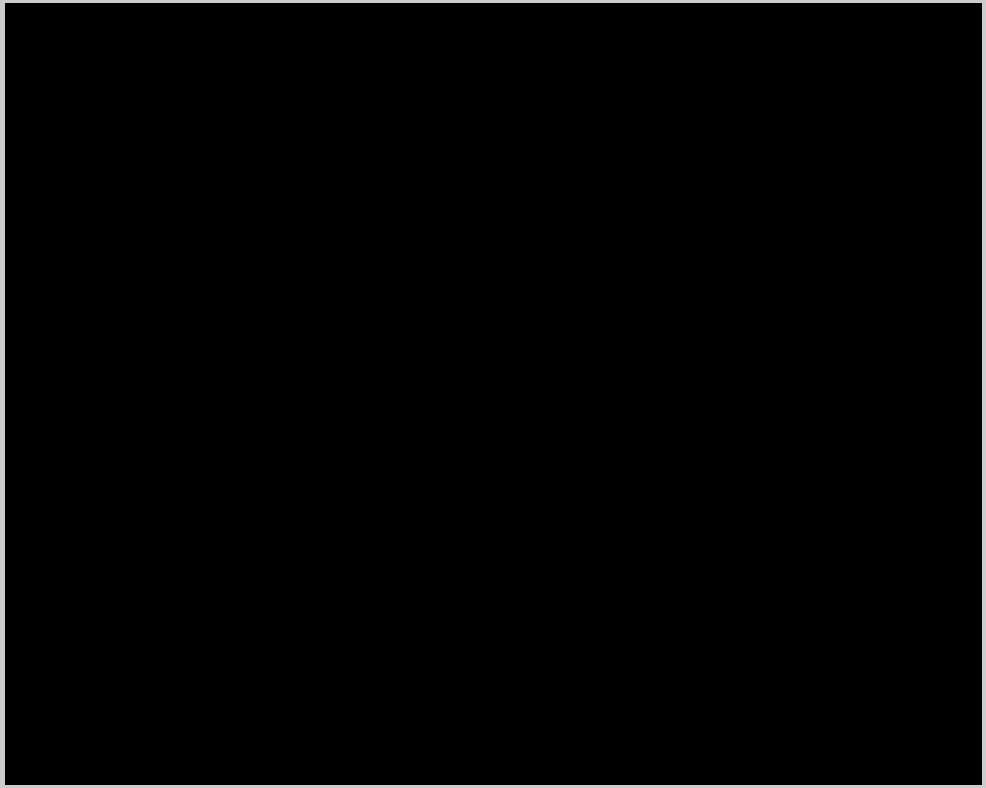


Customer Benefits:

- Optimised hygiene
- Fewer wear parts
- Reduced maintenace

Change-Over Times: Fast-Changing Stainless Steel Handling Parts

- Quick-change starhwheels and guides
- Only one quick-release fastening per handling part (starwheel/guide)
- Reduction of change-over times
- (by 60 percent)
- Lighweight due to split design “segmented design“
- (< 6 kg per segment)
- Open, hygienic design
- Materials: stainless steel and PE



Customer benefits:

- High user-friendliness
- Reduction of machine downtime
- High microbiological safety

Summary

Costs: Smaller machine with the same output
Shorter bottle stroke, shorter overall correction time

Flexibility: Automatic vent tube adjustment

Combination of a magnetic clutch and servo motor

Quality: Highest filling accuracy and product quality
Filling height correction and multiple evacuation combined with encapsulated hygienic magnetic clutch

Process safety:
Automatic CIP cups, automatic tube adjustment

Change-over times:
Quick-change stainless steel handling parts, automatic CIP cups

Microbiology: Consistent hygienic design
No need for centring bell connecting rod and the corresponding cam together with the adjustment and bellows system

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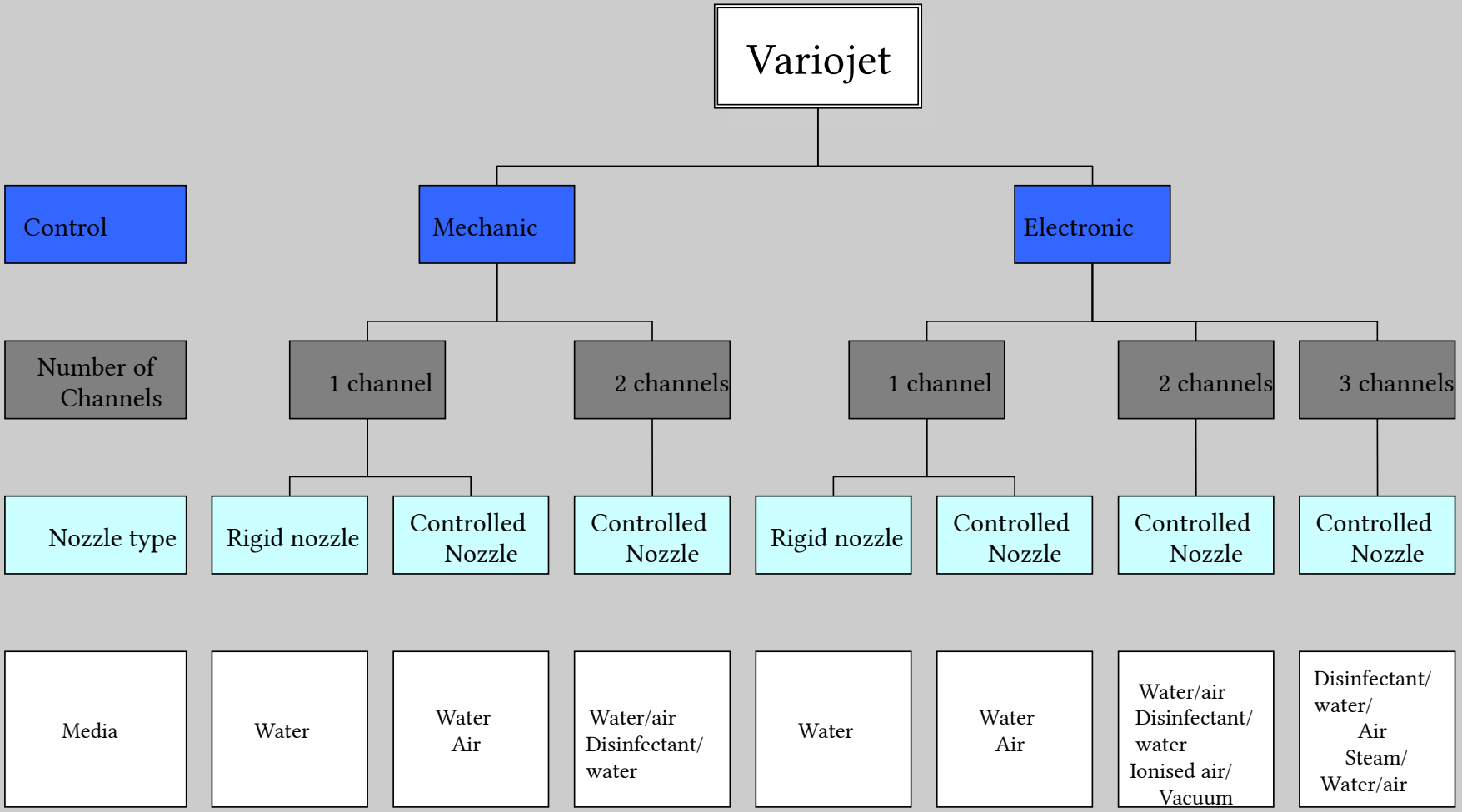
Overview of possible Rinse Systems



Variable Rinsers – Concepts for Bottle Treatment

Removal of all particles

Rinsing media: water, disinfectants, air, nitrogen

Quick water draining due to plunging nozzle

Flow regulation for all media

Closed CIP cycle for all systems possible

Customer benefits:

Flexible bottle treatment

Increased process safety and reliability

Electronic Two-channel Rinser With Controlled Nozzle

Rinser

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KRONES Variojet
Rinser with electro-pneumatic valve control
Two-channel model, e.g. for water and sterile-air treatment

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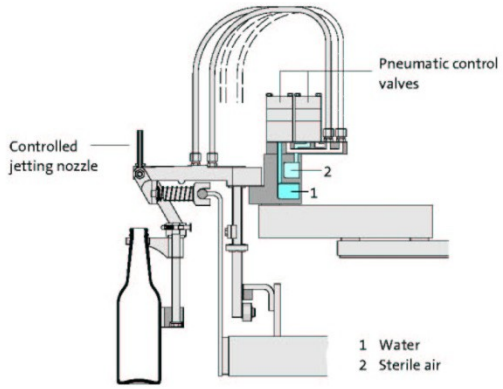

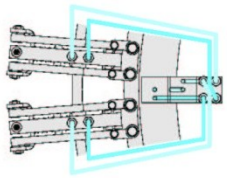

One valve unit serves two rinsing stations

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Rinser

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KRONES Variojet
Rinser with electro-pneumatic valve control
Two-channel model, e.g. for water and sterile-air treatment

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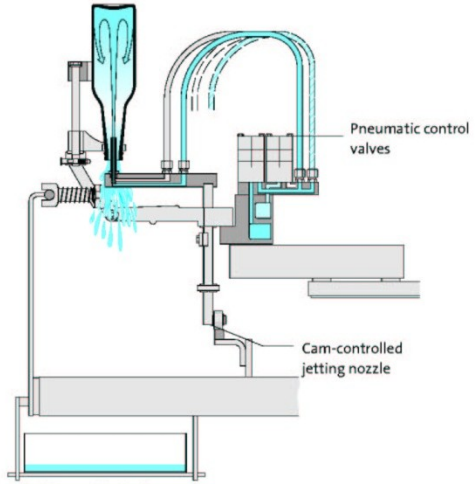
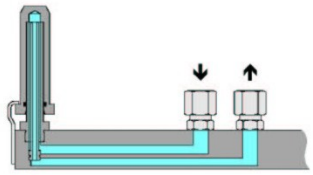


Jetting nozzle with CIP cup attached
(available as an option)



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Bottle Handling

Hygienic design

Quick-change rinser clamps

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Aluminium Roll-On Cappers – High-Tech in Stainless Steel

- Complete capper in stainless steel
- All 24 mm to 31.5 mm aluminium caps can be processed
- Lifting cylinder and capping head lubricant-free and completely gush jettable
- Side pressure can be adjusted quickly and easily
- No damage to the mouth if closure is missing

Customer benefits:

- Optimal cleaning ability
- Minimised changeover times
- Maintenance and lubricant-free
- Minimised sources of trouble

Aluminium Roll-on Cappers – Flexible Range of Closures

- 24 mm to 3.5 mm cap with and without circlip
- 28 mm Talog
- 28 mm deep and extra deep

Pivoted Capper Head Unit – Economical in Space and Time

Combination of different capper concepts with optimum space utilisation

Minimum time required for capper changeover (e.g. crown caps – aluminium roll-on)

Increase of the possible closure concept

Customer benefits:

Optimal space utilisation

Minimised changeover times

Increased plant flexibility

Pivoted Capper Head Unit – Economical in Space and Time

Combination of roll-on capper for aluminium caps and crowners

Further combinations, e.g.:

- Aluminium – plastic
- Crown caps – plastic

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Gable-Type Table Top Design for Glass

Gable-Type Table Top Design for Glass

- Slanted surfaces
- Stainless steel construction
- Hermetically sealed (welded)
- Flush seals
- Stand-alone pneumatic components/lubrication system
- Integrated central lubrication system/ lubrication-free design
- No guards/open cable ducts
- Optimal access
- Optional “ Dry Floor Concept“

Customer benefits:

- Easy maintance/repairs
- Optimised hygiene

Free-standing glass door guarding

- Free-standing machine protection with hinged and frameless multilayer safety glass doors
- Glass door suspension at the corner posts with space between the posts and doors

Customer benefits:

Easy maintance/repairs

Optimised hygiene

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Clean Room, Wine Filtration, Foam Cleaning

Clean room

- Class 1000 or 10,000

Foam cleaning

- Combination of different sections
- Different hygiene levels

Filtration

- Parallel filtration
- Automatic product change-over
- Wine preheating

What Makes this Filling System so Unique?

Costs:
Smaller machine with the same output

Flexibility:
Automatic vent tube adjustment

Quality:
Highest filling accuracy and product quality

Process safety:
Automatic CIP cups

Change-over times:
Quick-change stainless steel handling parts

Microbiology:
Consistent hygienic design

Thank you!

yes

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