

**KRONES Mecafill VKP**  
The reliable level filler



# Simple, robust, and versatile

KRONES Mecafill VKP

The Mecafill VKP short-tube filler combines the advantages of sturdy mechanical components with the flexibility of an electropneumatic controller. With this short-tube level filler, all filling process steps can be programmed easily and individually, and adjusted specifically to the respective combination of product and container.

The VKP family offers the optimum solution for almost any product group ranging from mineral water to carbonated sparkling wine, soft drinks all the way to beverages that are sensitive to oxygen such as beer bottled in glass or PET containers. This well-proven filling system is distinguished especially by its easy-to-operate and maintenance-friendly set-up, as well as its high reliability in continuous operation. Sold worldwide to more than one hundred countries clearly speaks for this filler.



*Water In  
PET bottles*



*Wine In  
glass bottles*



*Beer in  
glass bottles*

## Method of operation

All variants of the Mecafill VKP filler are single-chamber short-tube fillers operating by the equal pressure principle. As soon as the bottle is pressed to the centring bell, filling can begin. Depending on the version, the bottle is first pressurised and pre-evacuated. Depending on the product, a single or double pre-evacuation with intermediate rinsing can be employed. When the equal pressure has been reached in the ring bowl and the bottle, the actual filling step begins. The filling process is completed once the product comes in contact with the end of the vent tube, thereby preventing gas escaping from the bottle back into the ring bowl. After a setting phase, the pressure in the container's head space is taken off via the snifting valve. This snifting step can be adjusted to any product, any CO<sub>2</sub>-content and any filling temperature via electro-pneumathical controller.

With additional system variants, more filling steps or processes are possible, such as the fill level correction with the VKPV-CF or pressureless filling with the VKP-PET-DL.

## Application

Filling of carbonated and non-carbonated beverages in glass and PET bottles.

## Output range

Depending on the product to be filled, this system can bottle up to 78,000 glass bottles per hour and up to 72,000 PET bottles per hour.

## Type designation

- V** Valve
- K** Short tube
- P** Pneumatic
- V** Pre-evacuation
- C** CO<sub>2</sub> channel
- F** Fill level correction
- PET** Polyethylene terephthalate
- DL** Pressureless

Model	Glass	PET	CSD	Beer	Water	Wine Sparkling wine	Pressureless	Correction	Vacuum
VKP (10050)	X	X	X		X				
VKPV (10055)	X	X	X	X	X				X
VKPV-CF (10060)	X	X				X	X	X	X
VKP-PET (10062)		X	X		X				
VKP-PET (10063)		X	X	X	X	X			
VKP-PET-DL (10065)		X	X		X	X	X		

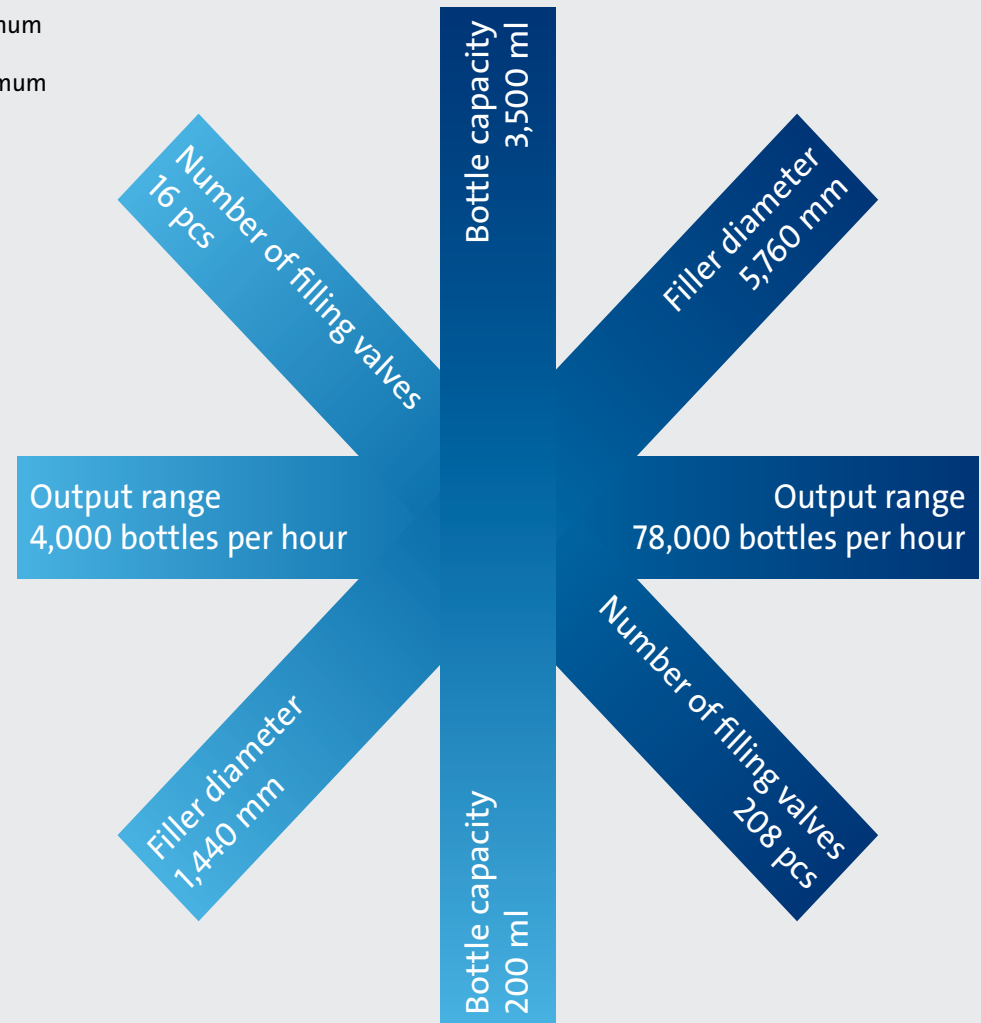
Machine pitch		87	94	103	113	126	141	188	283
Type	Pitch circle diameter (mm)	Number of filling valves							
121	1,440		48	44	40		32	24	16
122	1,800			60	55	50	45	40	
123	2,160		78	72	66	60	54	48	
124	2,520		91	84	77	70	63	56	
126	2,880		104	96	88	80	72	64	
129	3,600		130	120	110	100	90	80	
131	4,320		156	144	132	120	108	96	
132	5,040		182	168	154	140	126	112	
136	5,760		208	192	176	160	144	128	

## Design features

- Short-tube filling system
- Fill level is determined by the length of the vent tube
- Gentle media feed from the bottom via media distributor and pipe joints
- Distributor and all parts contacting product or gas are made of stainless steel AIS304 or higher quality
- Quick-change type Raptec handling parts in hygienic design or neck-handling equipment
- Cleaning in the closed circuit via CIP cups
- New safety standards EN ISO 13849 with TÜV supervision (TÜV = technical inspection authority) completely applied
- Integration of up to three cappers possible
- Bloc arrangement with rinser, labeller, or blow moulder possible

*The Mecafill VKP provides a large range of sizes, outputs, and container sizes to be processed. Furthermore, special designs can be realised as well.*

■ minimum  
■ maximum



# System variants

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## For glass bottles

### VKP – the CSD variant

The basic design is suitable for processing a wide variety of bottle and product types.

### VKPV – the beer variant

Several pre-evacuation steps and the bottle treatment with gas from the ring bowl ensure minimum oxygen pick-up during filling.

### VKPV-CF – the optimal choice for wine and sparkling wine

Several pre-evacuation steps and the bottle treatment with gas from the ring bowl ensure minimum oxygen pick-up. A fill level correction after filling is enabled by injecting pure CO<sub>2</sub> via a correction channel into the bottle neck which, in turn, will force back the overfilled product into the ring bowl. Therefore, this filling system ensures optimum fill level accuracy and minimum product loss.

## For PET bottles

### VKP-PET – the CSD variant

The neck handling system allows for processing PET bottles with minimum change-over times.

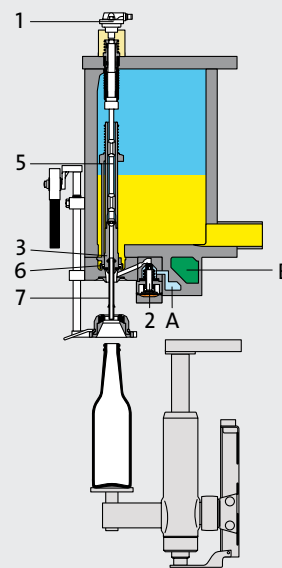
### VKP-PET – the beer variant

Vacuum-assisted pre-flushing with CO<sub>2</sub> will displace air from the bottle and create a low-oxygen atmosphere for processing products which are sensitive to oxygen.

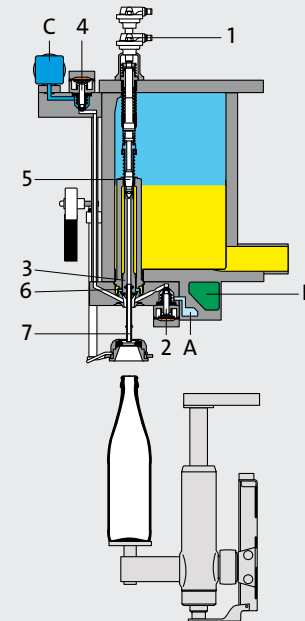
### VKP-PET-DL – for CSD and non-carbonated beverages in light-weight PET bottles

For processing very light, pressure-sensitive PET bottles, this filler is available in a pressureless variant.

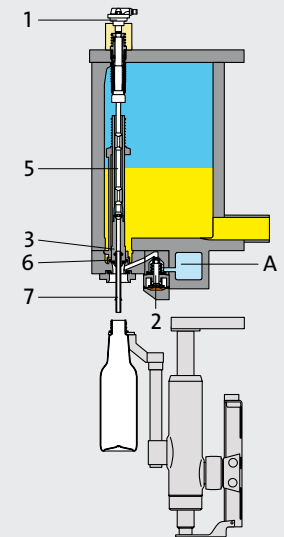
## VKPV (10055)



## VKPV-CF (10060)



## VKP-PET (10062) for CSD



- 1 Control cylinder
- 2 Snifting valve
- 3 Valve stem
- 4 Correction valve
- 5 Gas needle
- 6 Gas lock
- 7 Vent tube

- A Snifting channel  
B Vacuum channel  
C Correction channel

# Operation and change-over

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## Screen

- Colour touch-screen
- Safe access to the user interface through individual transponders
- User-friendly menu setup in the operating program
- Task-oriented user concept
- Easy-to-follow display of the current production data
- Filling steps can be adjusted individually and saved for any product
- Malfunction display in plain text and graphic display
- Text displayed in the set language
- Interface to superordinated systems like LDS (Line Data Storage System) or LMS (Line Management System)
- Remote maintenance possible



*Touch-screen operation*

## Change-over

- Change-over to other fill level via exchange of vent tubes
- With lifting cylinder variants: automatic height adjustment of the ring bowl and the capper
- Replaceable centring bells for changes of the neck finish shape
- Base handling: quick replacement of the Raptec handling parts
- Neck-handling system: with the same neck-finish diameter and changes of the container height and diameter, merely the capper starwheel and lowering starwheel must be replaced
- Option: special design for successive change-over of mixer and filler making product change-overs within 10 minutes possible



*Raptec quick-change handling parts*



*Neck-handling clamps*

# Additional equipment

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- Design with gable-type table top
- Flushing system for exterior cleaning of filler
- Fully automated valve manifold
- Measuring devices for product pipe O<sub>2</sub>, CO<sub>2</sub>, Brix value, product flow
- Consumption measurement, for example of water or CO<sub>2</sub>
- Spray balls in the ring bowl for optimal cleaning and quick product changes
- Product contact parts in AISI 316
- Distributor with gaskets that can be rinsed from behind or that are lubricant-free
- Product pumps
- Water-saving vacuum pump



*Fully automated valve manifold*



*Mecafill VKPV-PET with gable-type table top design*

# System expansions

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- Foam cleaning system for exterior cleaning of filler
- Clean room housing with HEPA filters
- Nitrogen dropper
- Velcorin dosing



*Equipped for foam cleaning*



*Clean room housing*

# System expansions

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- KRONES Capcade – cascade sorter for caps
- Cappers from other manufacturers
- Aluminium seal machines



*Cascade sorting system  
for caps*

# Your benefits

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- **Versatility**  
This filling system is suitable for a wide range of products: ranging from water to CSD and beer all the way to wine and sparkling wine.
- **Flexibility**  
Change-over to other products, CO<sub>2</sub>-contents or filling temperature is done quickly, easily, and it is reproducible.
- **Short change-over times**  
Short change-over times possible through Raptec quick-change handling parts or neck-handling equipment, quick vent tube replacement, and easy selection of filling program.
- **Effective cleaning**  
The interior cleaning in a closed cycle (CIP) enables a safe process, and smooth as well as easy-to-clean outer surfaces provide a hygienic environment.
- **Easy maintenance**  
This machine is well accessible so that all maintenance and service jobs can be performed easily.

