

HEVD

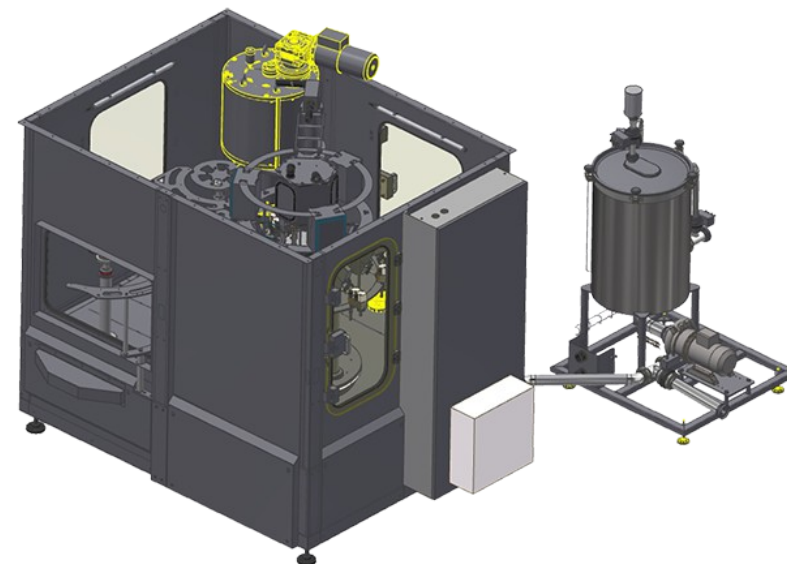
Hyperclean Electronic Volumetric filling System for Detergents



HEVD: not only beverage

The thirty-year experience of *Enoberg* in the construction of filling machines bring us in a new sector where our machines can be used. Detergent market is one of the fields where Enoberg fillers can find the perfect placing thanks to the new *HEVD machine series*.

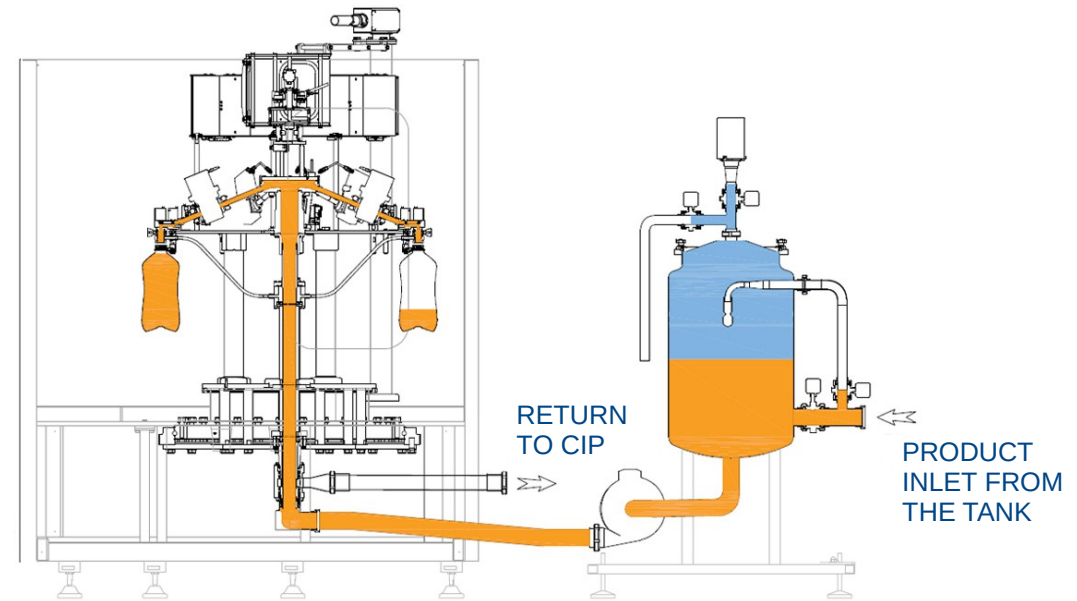
HEMF: Hyperclean Electronic Volumetric filling systems for Detergents



HEVD: how does it work?

The *electronic volumetric filling system* is based on the use of a flow-meter for each filling valve.

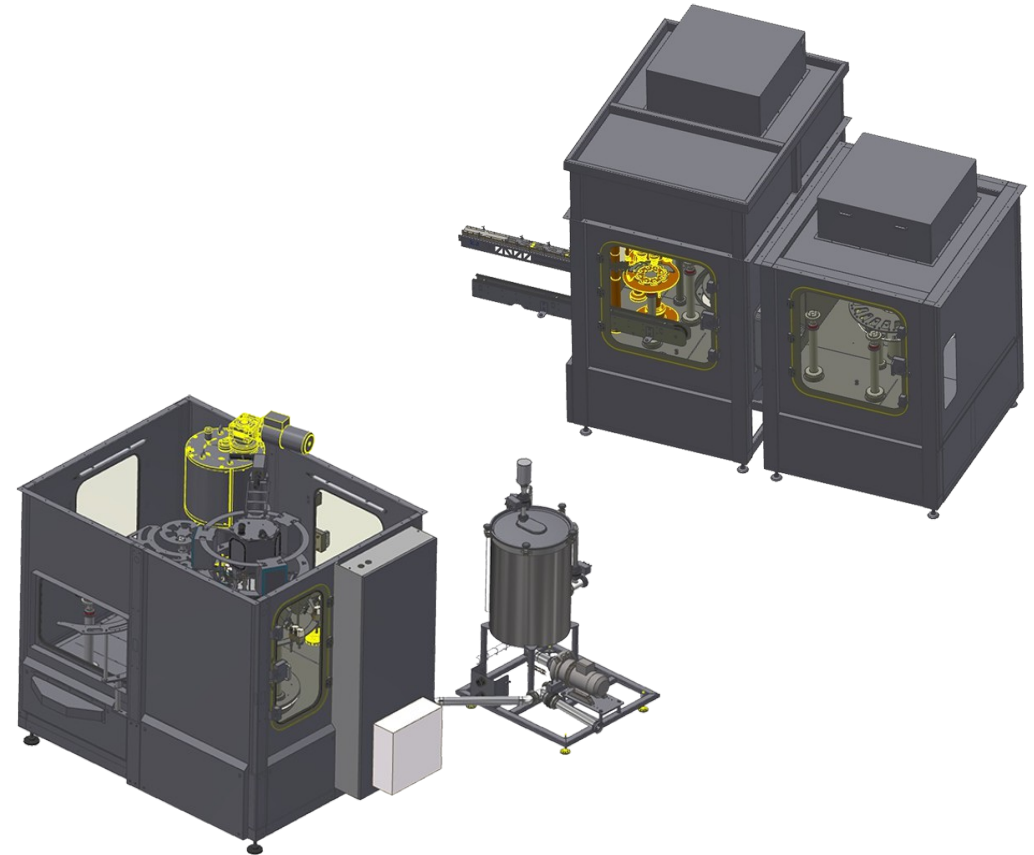
The flow meter detects the product flow that is entered in each bottle; when the *correct volume* is reached, the flow meter controls the *closing of the filling valve*.



HEVD: available configurations

The machine is available in the following versions:

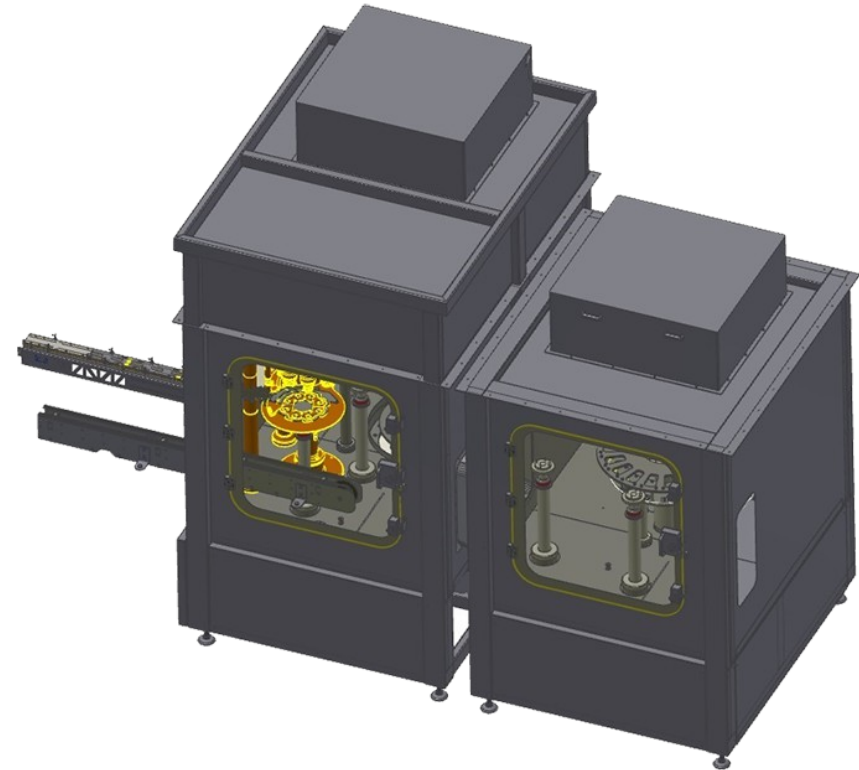
- ▶ FILLER - CAPPER;
- ▶ RINSER (with product or air) - FILLER - CAPPER;
- ▶ **ECOBLOC®**: BLOWMOULDER - FILLER - CAPPER.



HEVD: machine dimensions

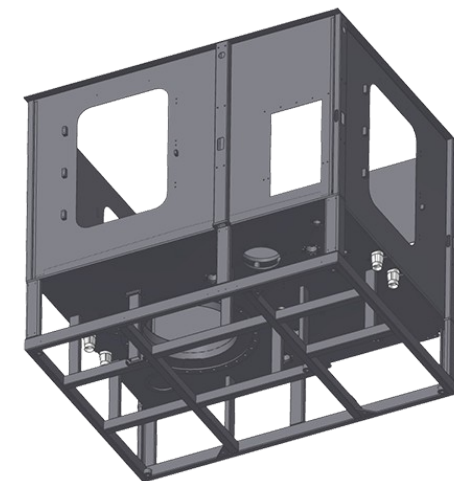
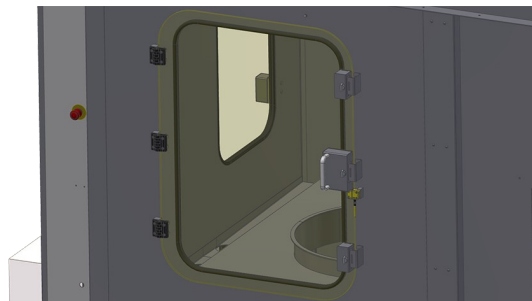
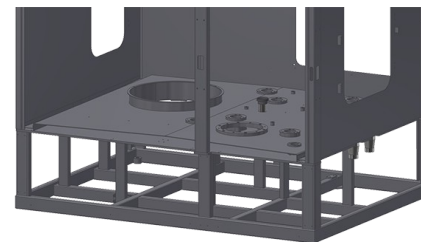
The frame of the new HEVD is realized with reduced dimension. Advantages of the solutions:

- ▶ *space saving* for machine positioning in the plant;
- ▶ possibility of transporting the machine inside *40' high cube container* (available for most models).



HEVD: the frame

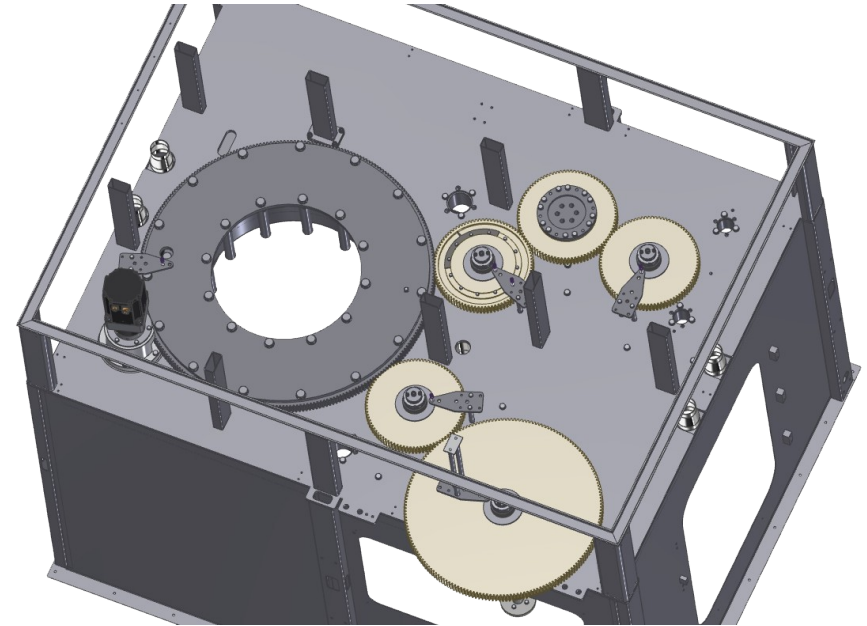
- ▶ Frame made of *AISI 3040* stainless steel;
- ▶ fully welded frame which gives the entire machine a solid and resistant structure;
- ▶ the filling chamber is *completely isolated* from the transmissions, which therefore do not come into contact with any type of liquid;
- ▶ tempered glass protections and sealing gaskets *hermetically seal the filling environment* from the external environment.



HEVD: motion transmission

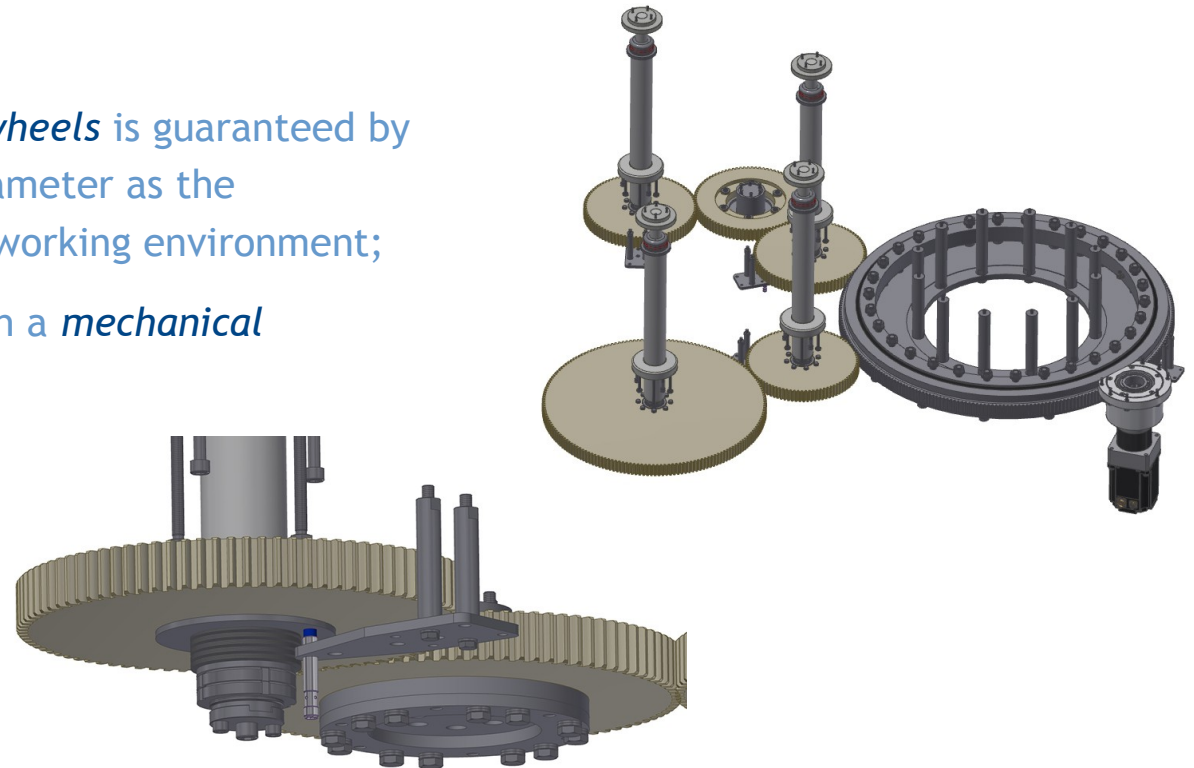
The movement of the carousels of the machine is obtained with *robust gears* positioned in the base of the machine. A gear placed in the base of the machine corresponds to each *star-wheel* placed in the filling environment. The gears are moved by a single *brushless motor* managed by the machine program.

The *filling carousel* is moved thanks to a *toothed fifth wheel* having the same primitive diameter as the *filling carousel*.



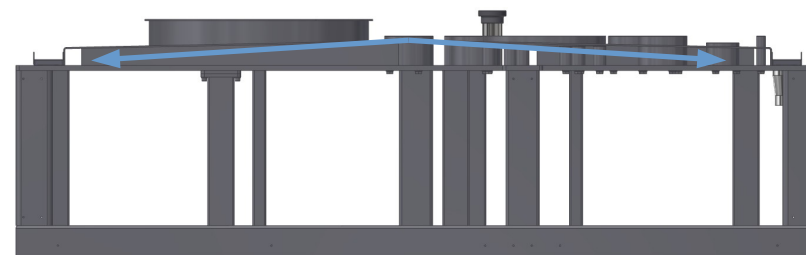
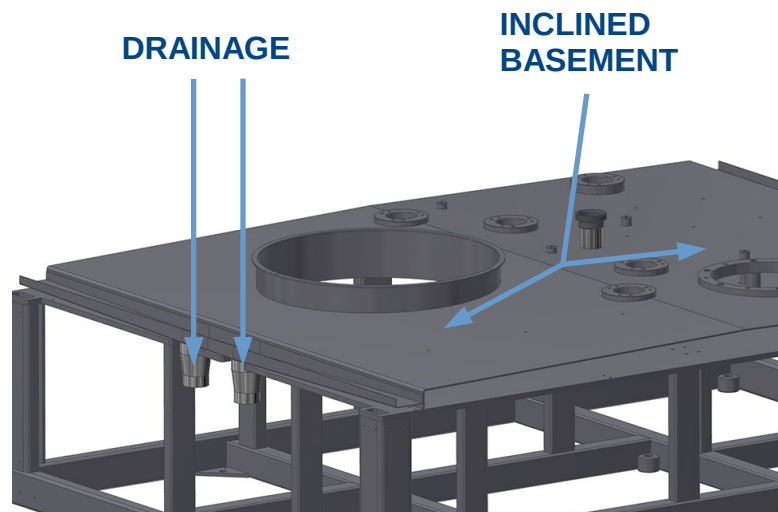
HEVD: motion transmission

- ▶ The synchronism between all the *star-wheels* is guaranteed by the *toothed wheels* having the same diameter as the corresponding handling carousel in the working environment;
- ▶ each transmission shaft is equipped with a *mechanical emergency clutch*.



HEVD - filling environment: inclined base plate

The basement of the machine is inclined towards the *drainage points of the machine*.

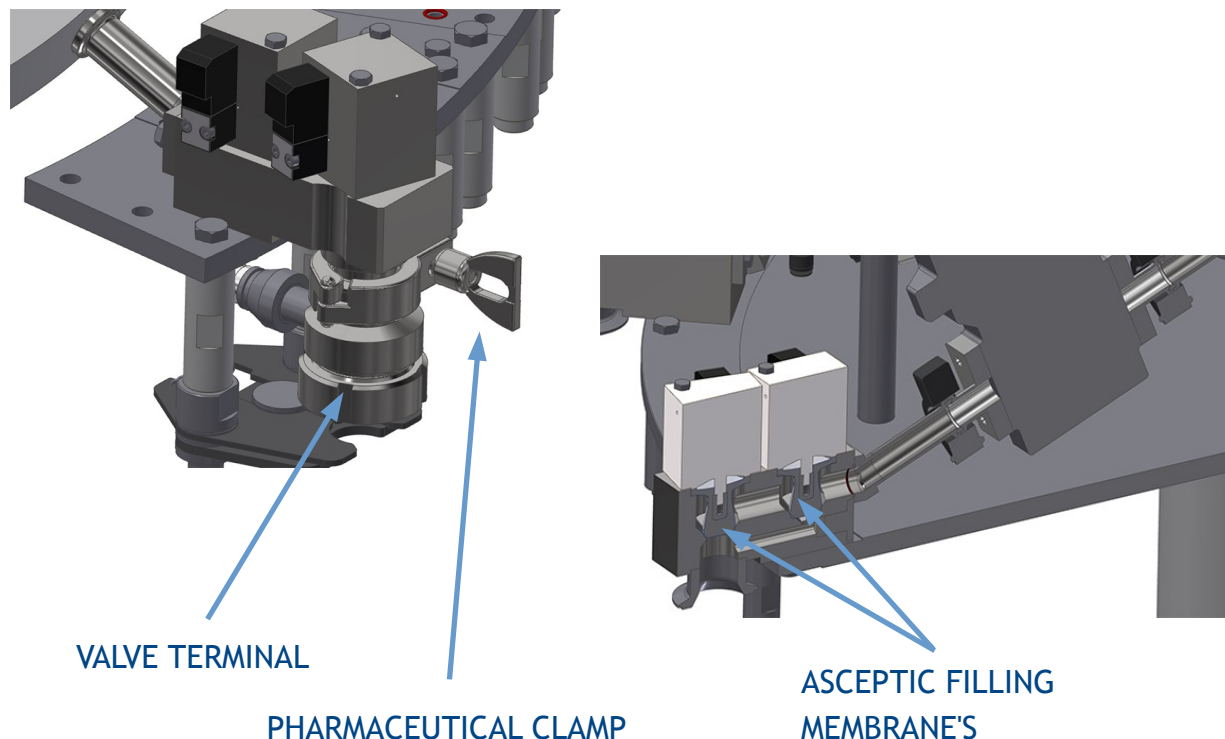


Advantages of the solution:

- ▶ *drainage of liquids* present on the machine basement;
- ▶ higher level of hygiene.

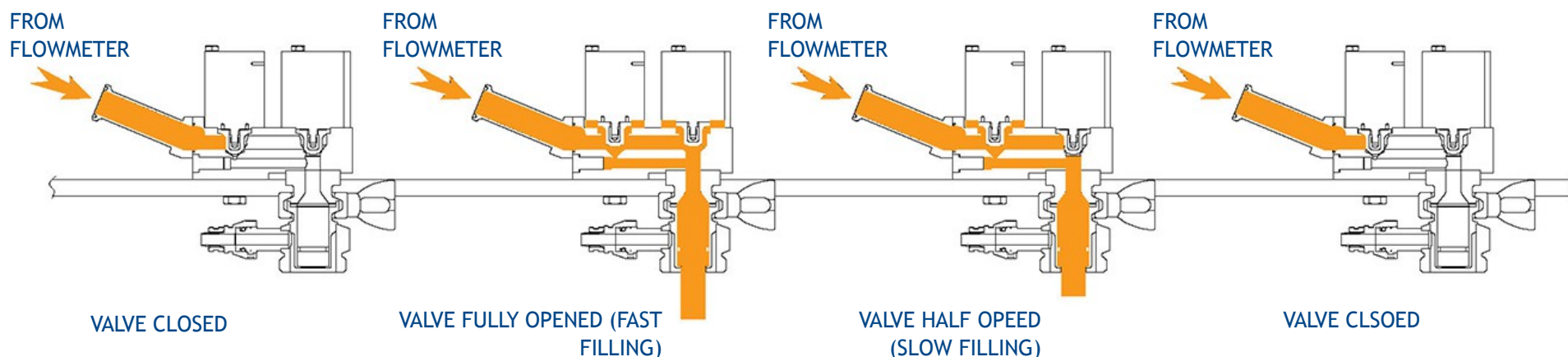
HEVD: filling valve

- ▶ Filling valve with reduced number of gasket: *two aseptic membranes* regulate the flow of the filling product;
- ▶ the terminal valve of the filling valve is dedicated to detergent products, is connected with the filling valve thanks to a pharmaceutical clamp;

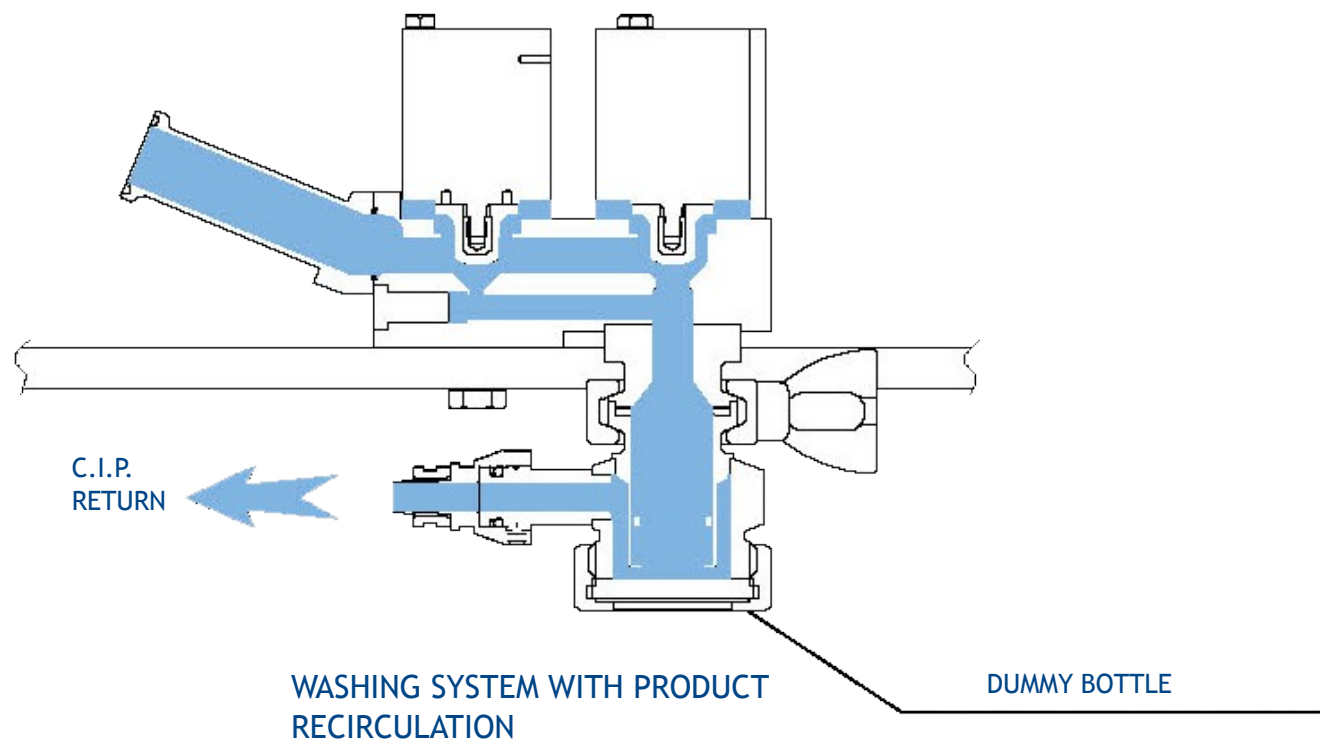


HEVD: filling phase

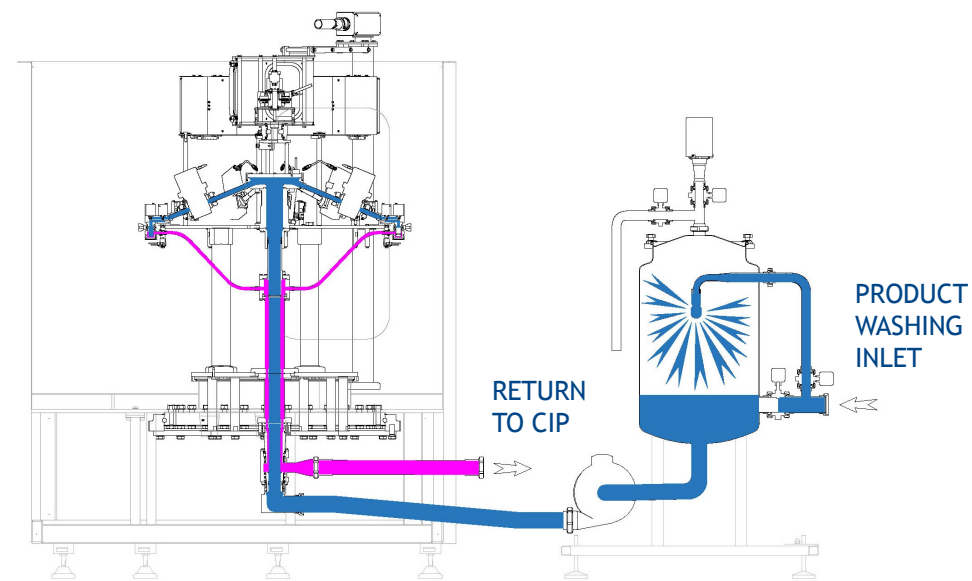
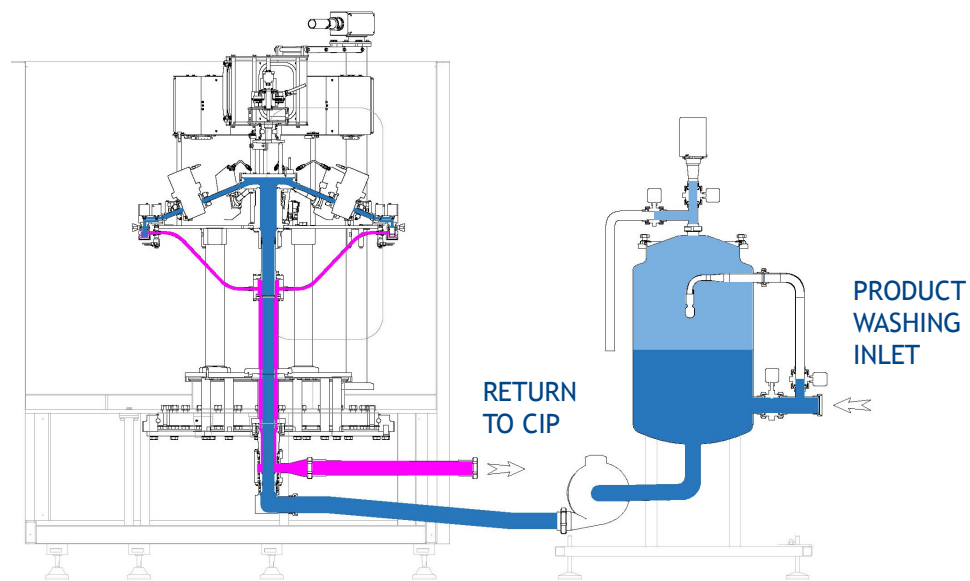
- ▶ The valve allows to manage *two filling speeds* in order to fill in a homogeneous way, efficiently and without product leakage from the bottle;
- ▶ the duration of the filling cycles (*slow or fast*) can be easily and intuitively managed using the recipes present in the man-machine interface (*Posyc HMI*);



HEVD: CIP sanitation



HEVD: CIP sanitation



HEVD: fillable product

The filling machine is designed to fill *cleaning products, detergent and sanitizer* like:

- ▶ foaming liquid detergent;
- ▶ not foaming liquid detergent;
- ▶ laundry detergent;
- ▶ softener;
- ▶ dishwasher detergent;
- ▶ sanitizer;
- ▶ hand sanitizer.

The machine can fill product with a viscosity up to *350 cP at 20 °C (filling temperature)*. For products with higher viscosity more specific test are necessary.



HEVD: containers

Thanks to the possible machine configuration and thanks to the high customization possibilities on the machine, we can handle *different types of bottles formats (PET, HDPE, PP) and different types of caps format.*

The solutions are studied for each specific customers application/request.



HEVD: filling production

Maximal speed reachable (bph) the machine with 96 filling valves	
Foaming liquid detergent	43.200 (0,75 lt) - 14.800 (3 lt)
Softner	43.200 (0,75 lt) - 10.200 (3 lt)



Thank you
for your
attention

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