



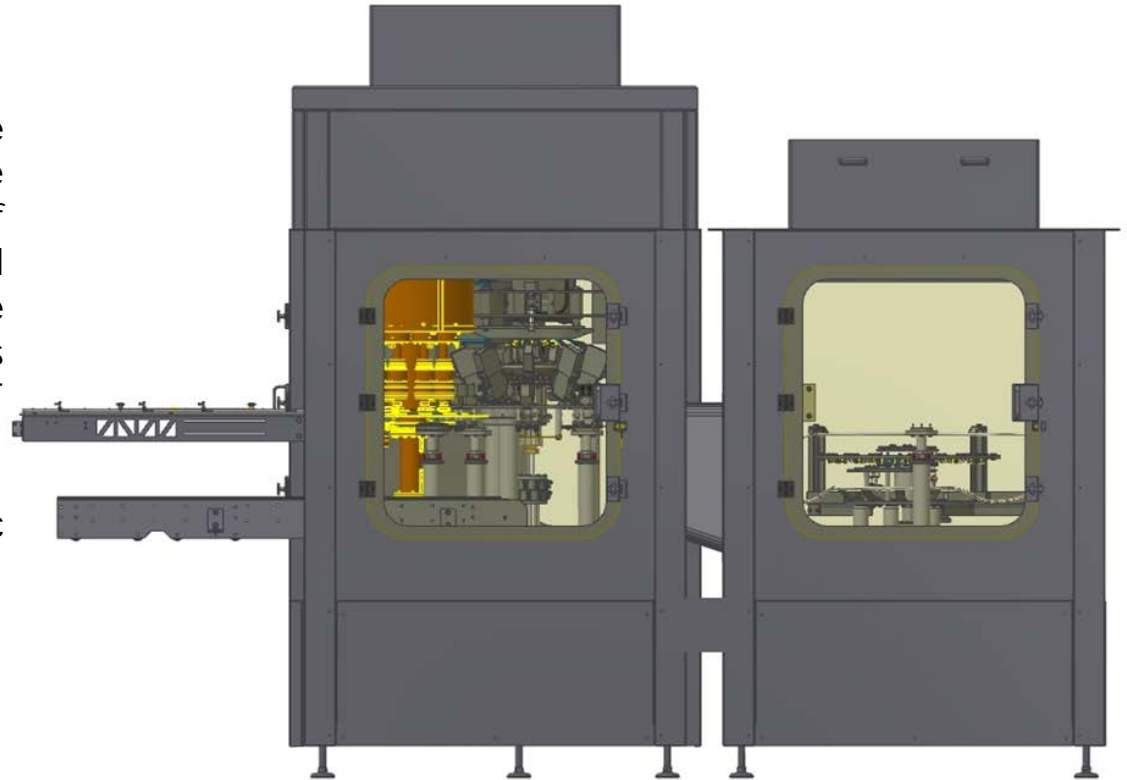
HEVF

**Hyperclean Electronic Volumetric
filling System**

HEVF - INNOVATION FOR THE CUSTOMER

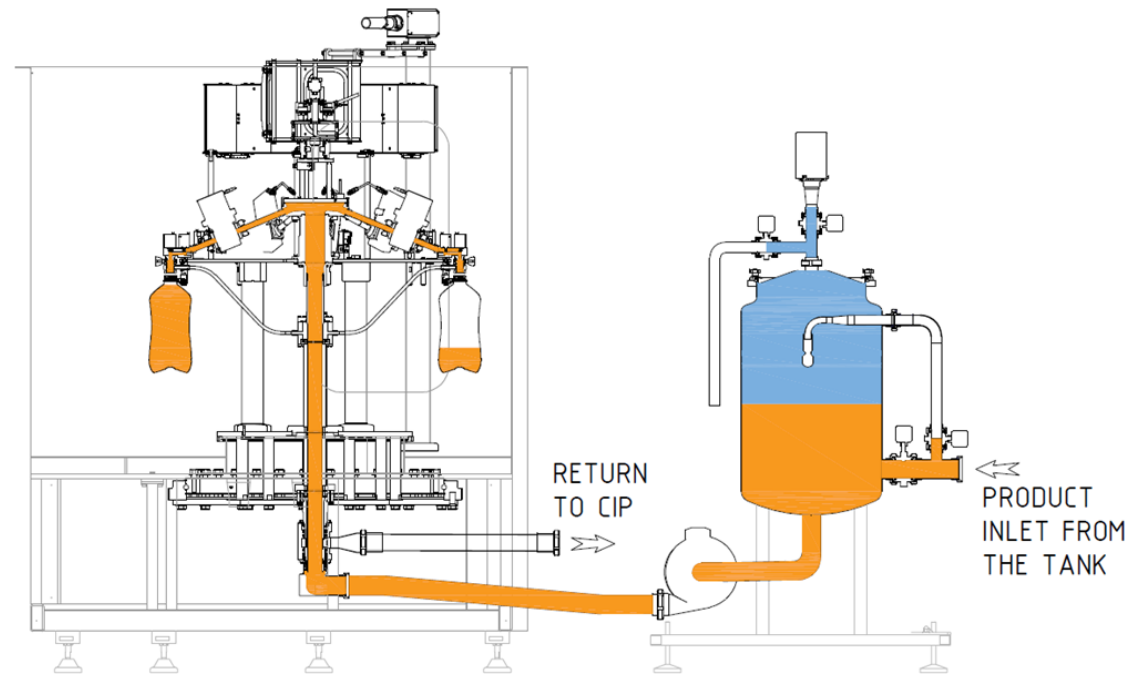
The thirty-year experience of Enoberg in the construction of filling machines and the increased need of the market in terms of hygiene, reliability, easy use and maintenance of the machines led the company to renew the existing EVF series with the realization of the new HEVF series.

HEVF: Hyper clean Electronic Volumetric filling systems for Flat products.



HEVF - HOW DOES IT WORK?

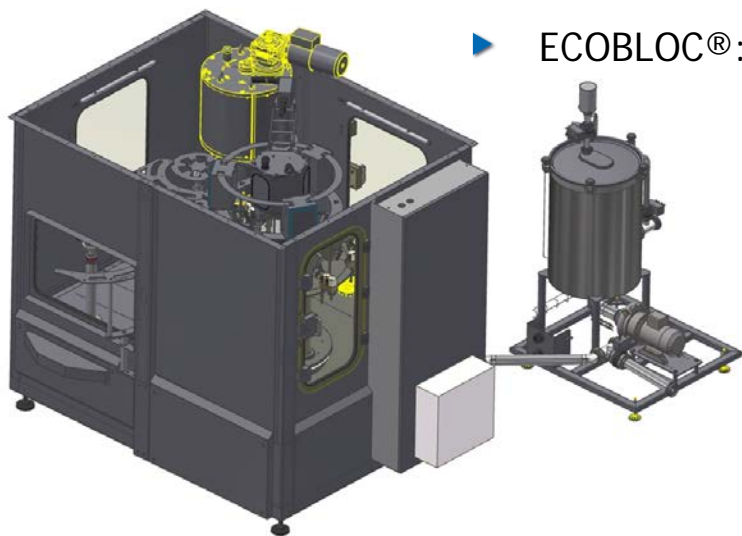
The electronic volumetric filling system is based on the use of a flow meter for each filling valve. The flow meter detects the product flow that is entered in each bottle; when the correct volume is reached, the flow meter controls the closing of the filling valve.



HEVF - AVAILABLE CONFIGURATIONS

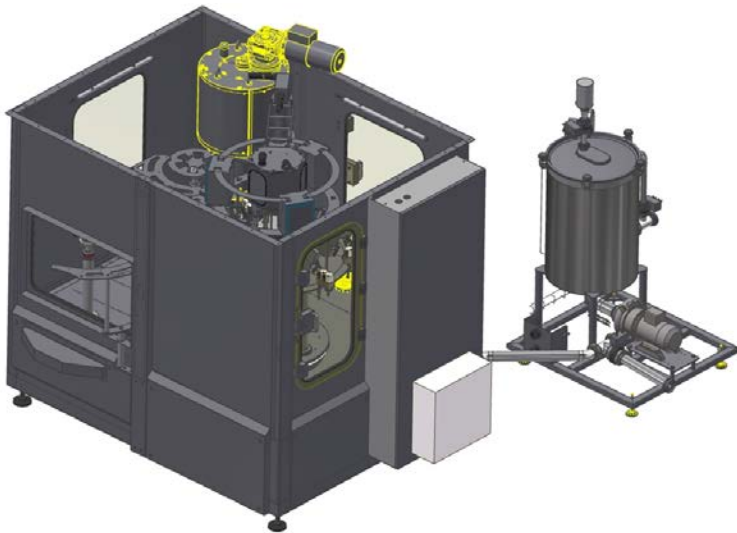
The machine is available in the following versions:

- ▶ FILLER - CAPPER;
- ▶ RINSER - FILLER - CAPPER
- ▶ ECOBLOC®: BLOWMOULDER - FILLER - CAPPER



HEVF - AVAILABLE CONFIGURATIONS - HC VERSION

Each configuration is available both in the standard version and in the HC (High-Capacity) version for bottles up to 10 lt. The HC PLUS version is also available, able to fill one-way PET bottles up to 5 gallons (19 liters).



HEVF - MACHINE DIMENSIONS

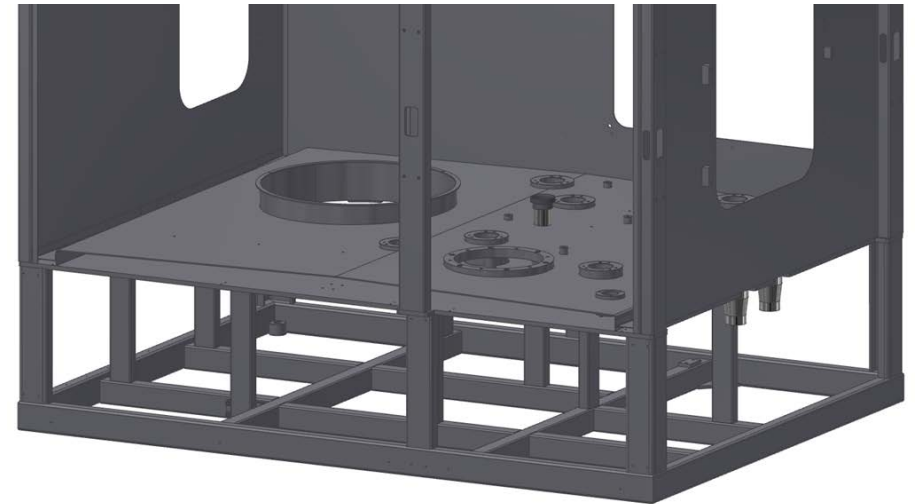
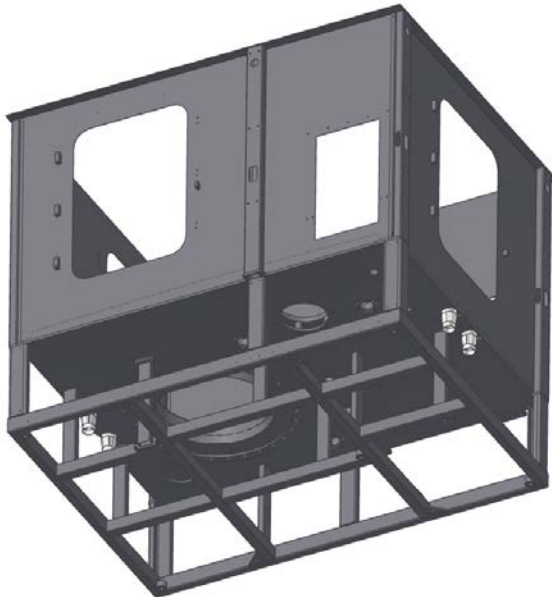
The frame of the new EVF is realized with reduced dimensions. Advantages of the solution:

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



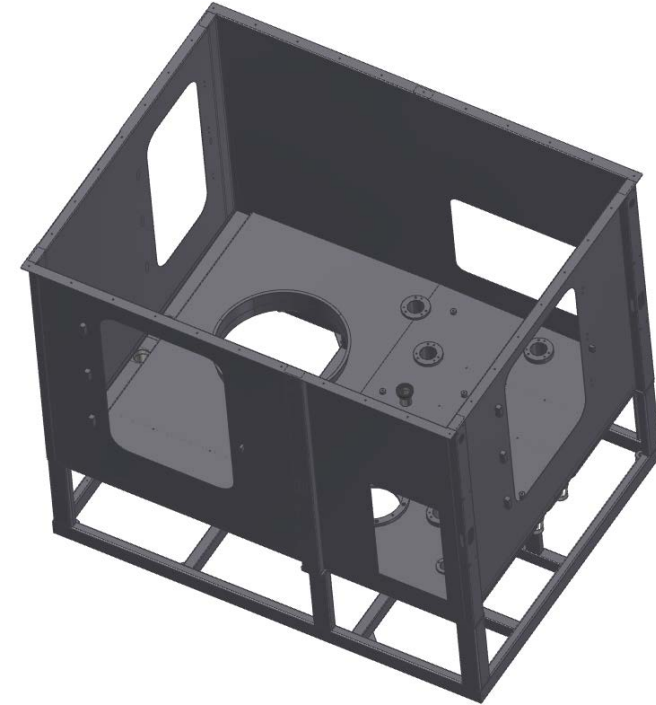
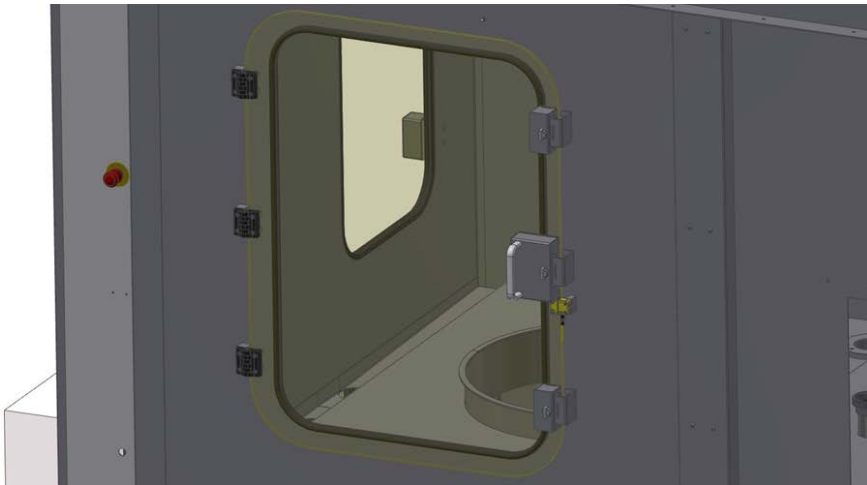
HEVF - FRAME

Frame made of AISI 304 stainless steel;
- fully welded frame which gives the entire machine a solid and resistant structure.



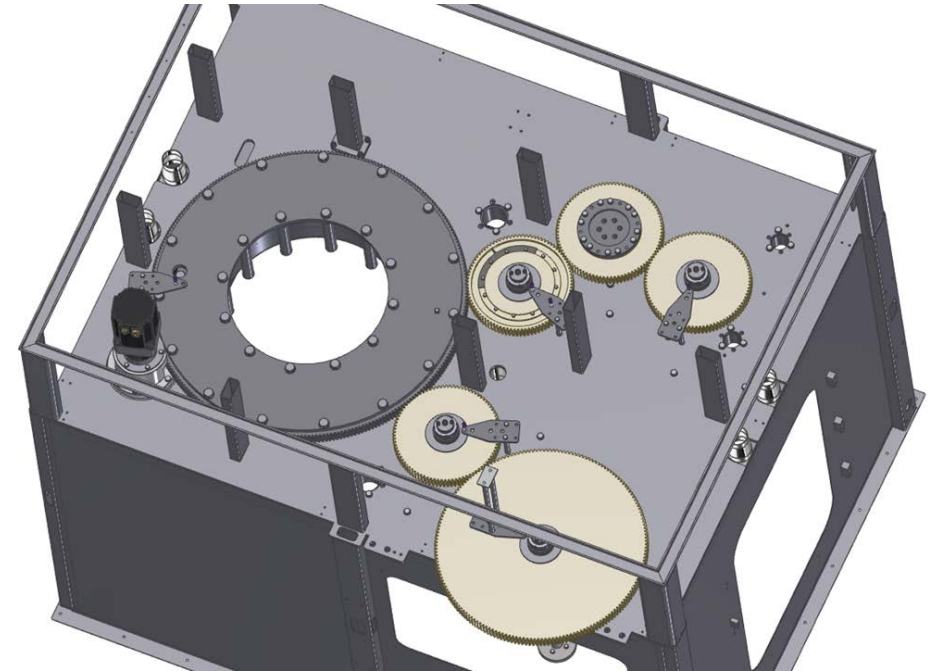
HEVF - FRAME

- 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.



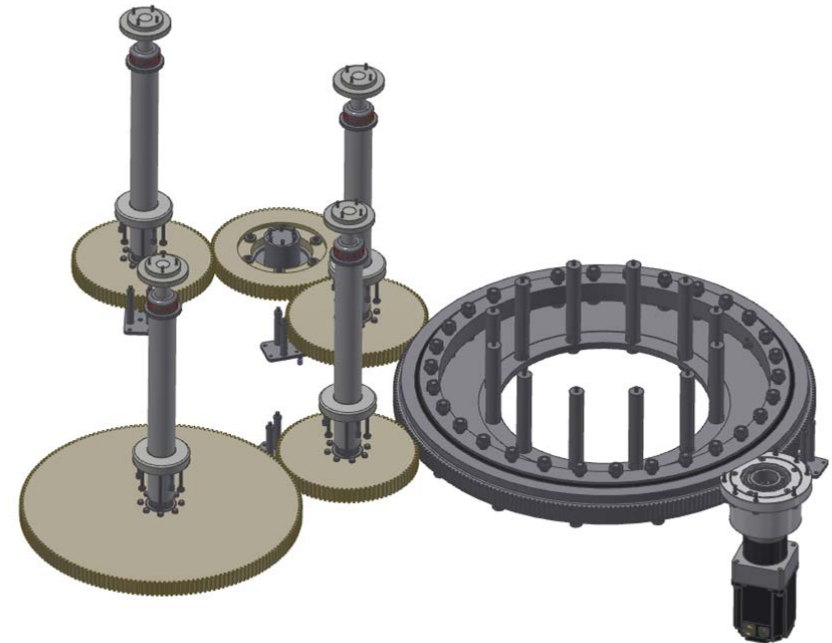
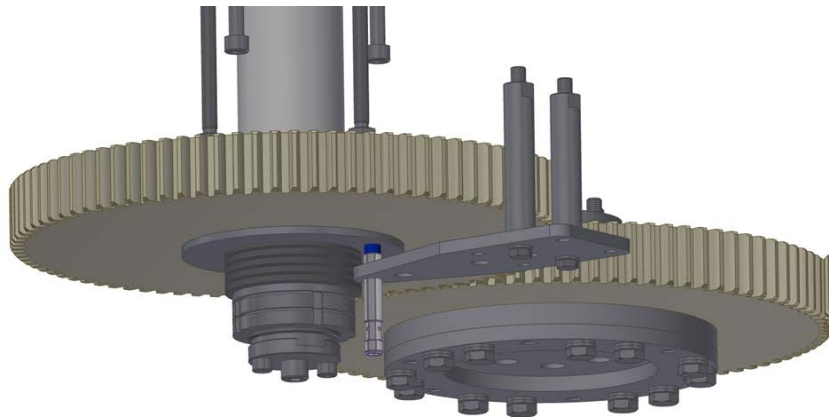
HEVF - MOTION TRANSMISSION

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.



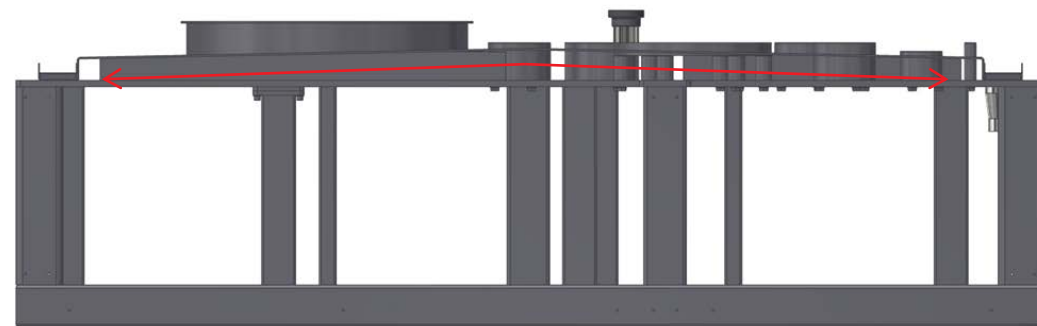
HEVF - MOTION TRANSMISSION

- 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.



HEVF - FILLING ENVIRONMENT: INCLINED BASE PLATE

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

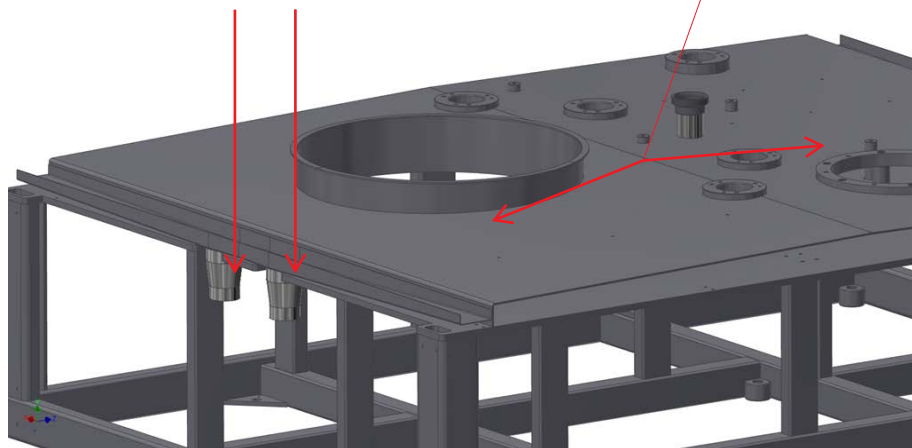


Advantages of the solution:

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

DRAINAGE

INCLINED BASEMENT

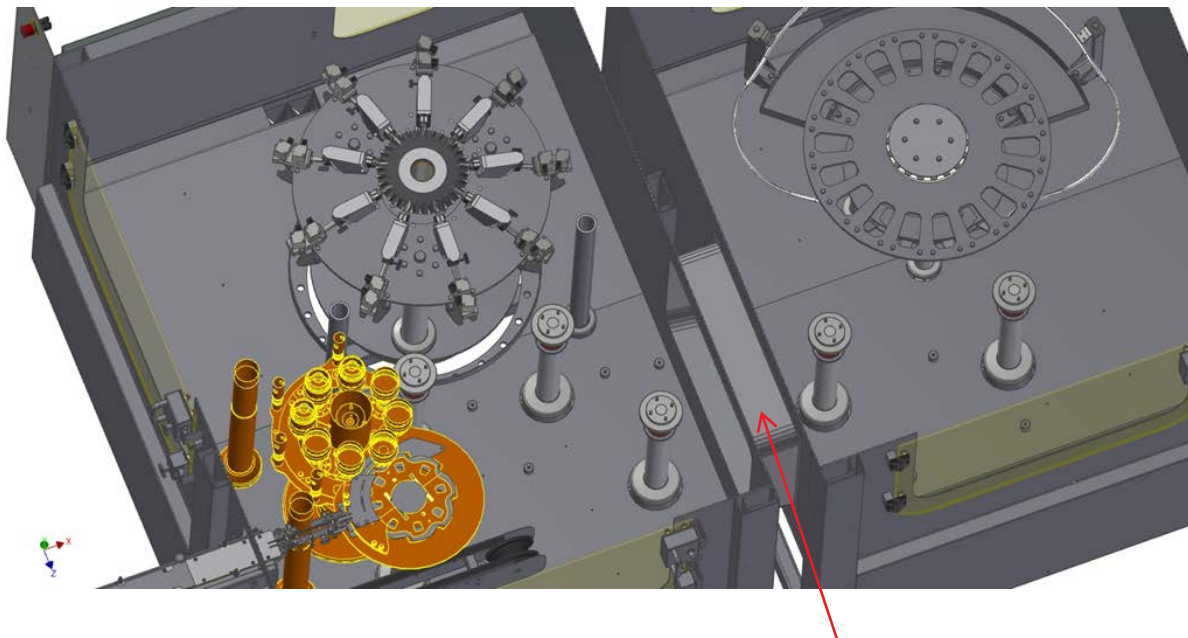


HEVF - FILLING ENVIRONMENT: SEPARATION BETWEEN THE MODULES

The filling/capping module is kept separate from the rinsing environment. The two parts are connected through a tunnel that allows the bottles passage.

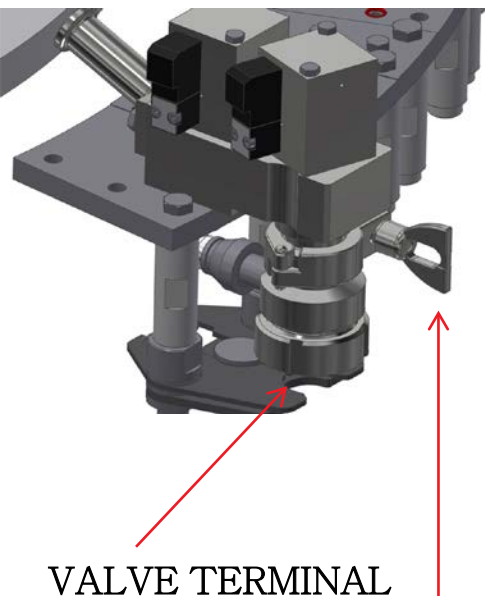
Advantages of the solution:

- reduced risk of contamination between environments;
- easy positioning = reduced installation times.



CONNECTING TUNNEL BETWEEN THE MODULES

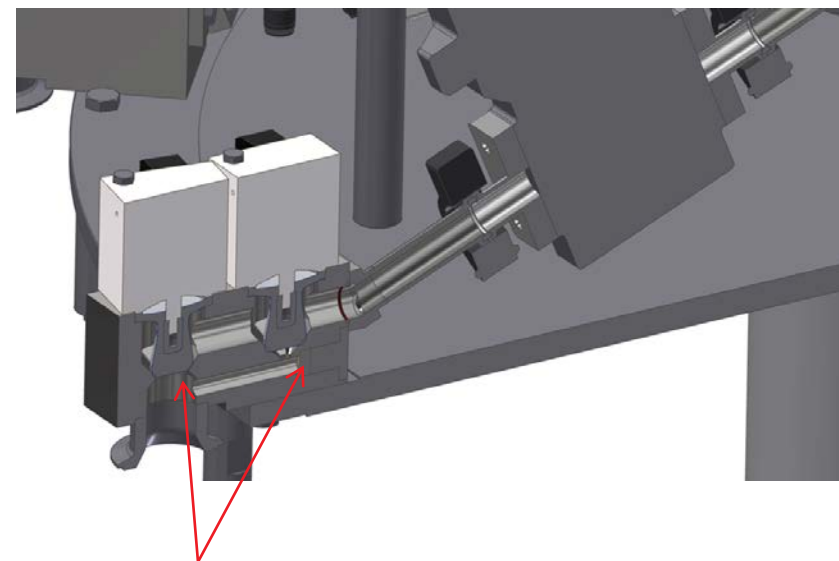
HEVF - FILLING VALVE



VALVE TERMINAL

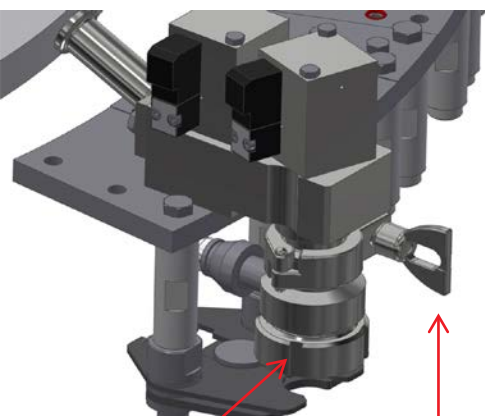
PHARMACEUTICAL CLAMP

- filling valve with reduced number of gaskets: two aseptic membranes regulate the flow of the filling product;
- completely sanificable filling valve, thanks to dummy bottles with manual or automatic positioning (optional);
- terminal connected to the valve by pharmaceutical clamp.



ASEPTIC FILLING MEMBRANES

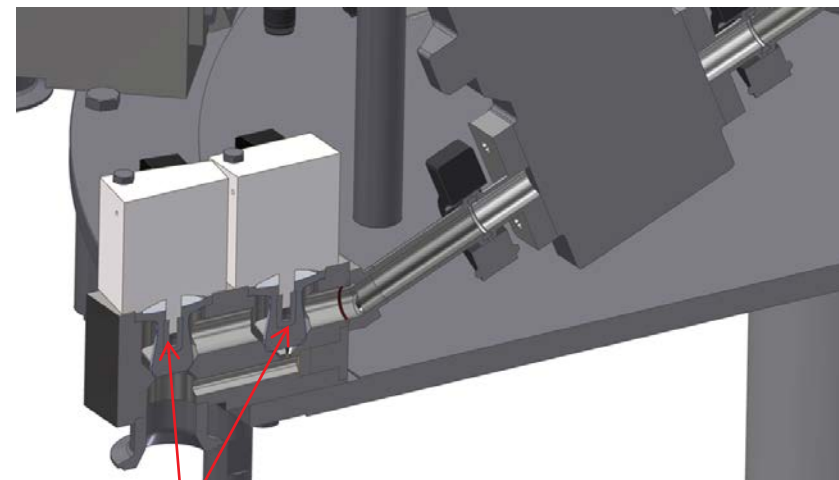
HEVF - FILLING VALVE - HC SERIE



VALVE TERMINAL

PHARMACEUTICAL CLAMP

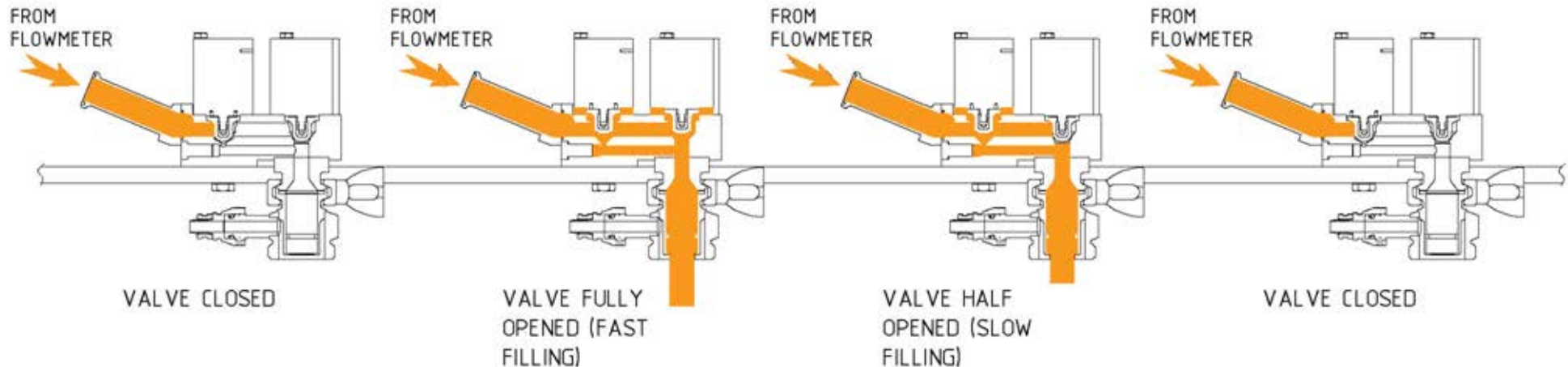
The HC series filling valve has the same design of the standard valve. The difference is only in the passage inside the flow meter, in the passage inside the filling valve and in the valve terminal which is enlarged to allow an higher filling speed.



ASEPTIC FILLING MEMBRANES

HEVF - FILLING PHASES

- 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).



HEVF - ELECTRIC MANIFOLD AND FILLBOX

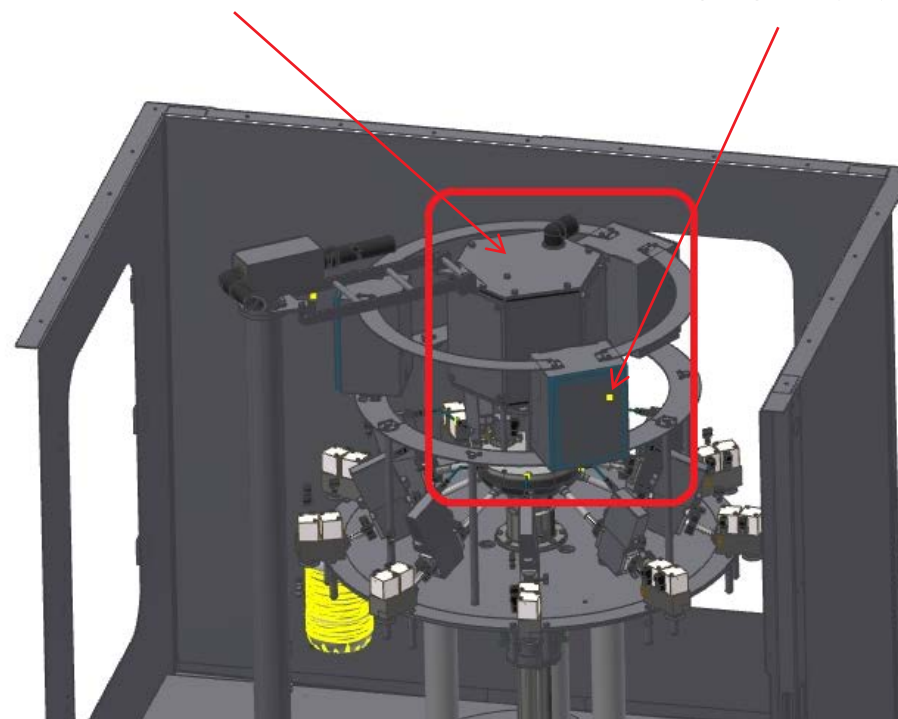
The electric manifold and the actuators of the filling valves are isolated from the filling environment by airlocks.

Advantages:

- safeguarding of electronic components from any contact with liquids;
- possibility of carrying out COP washing operations of the entire filling carousel.

ELECTRIC MANIFOLD

ACTUATORS

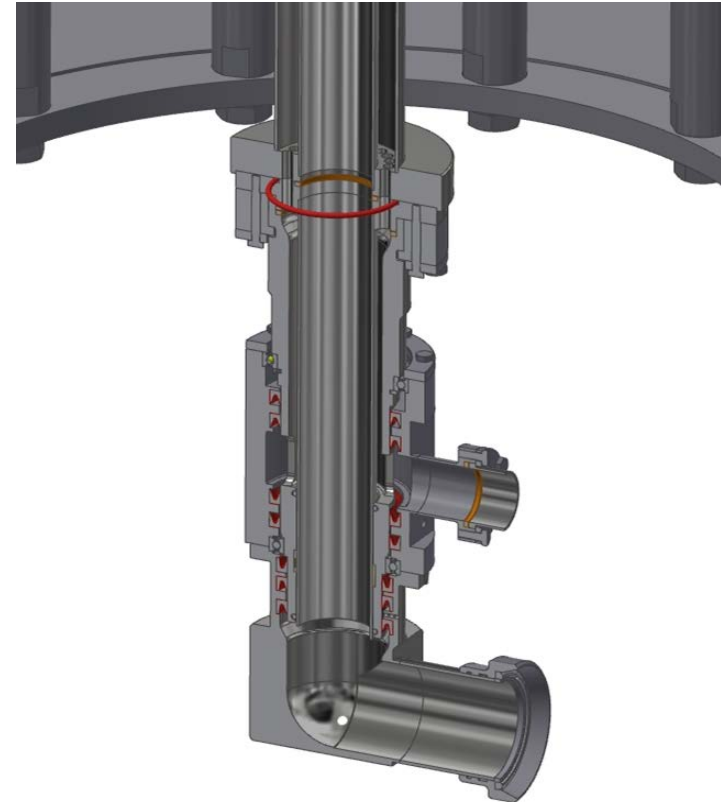


HEVF - PRODUCT AND CLEANING COLLECTORS

The entry of the filling product and the return of the cleaning product take place in the lower part of the machine through a ceramic coated manifold equipped with double gaskets (one for sealing, one for safety) and complete with inspection light.

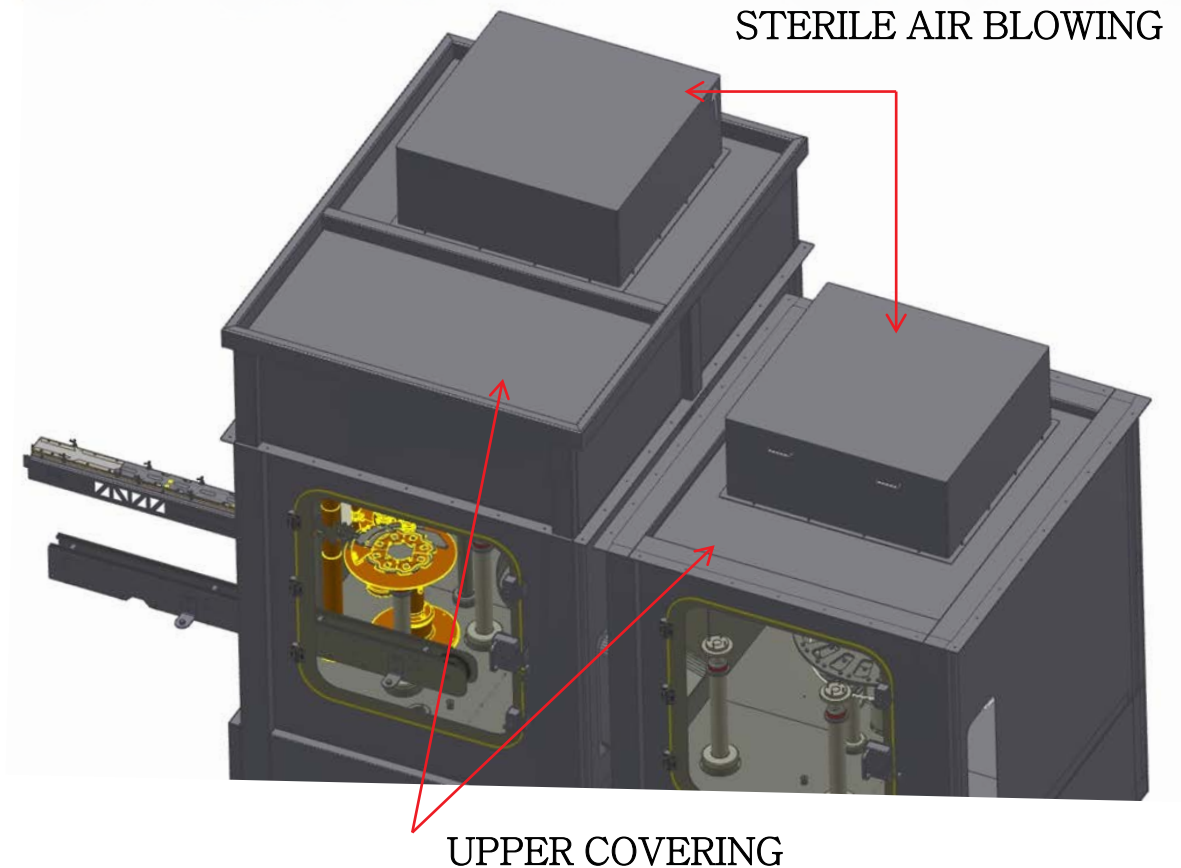
Advantages of the solution:

- net separation between "wet" manifolds (product and CIP return) and "dry" manifolds (electric and pneumatic);
- high durability (double seals and ceramic coated manifold).



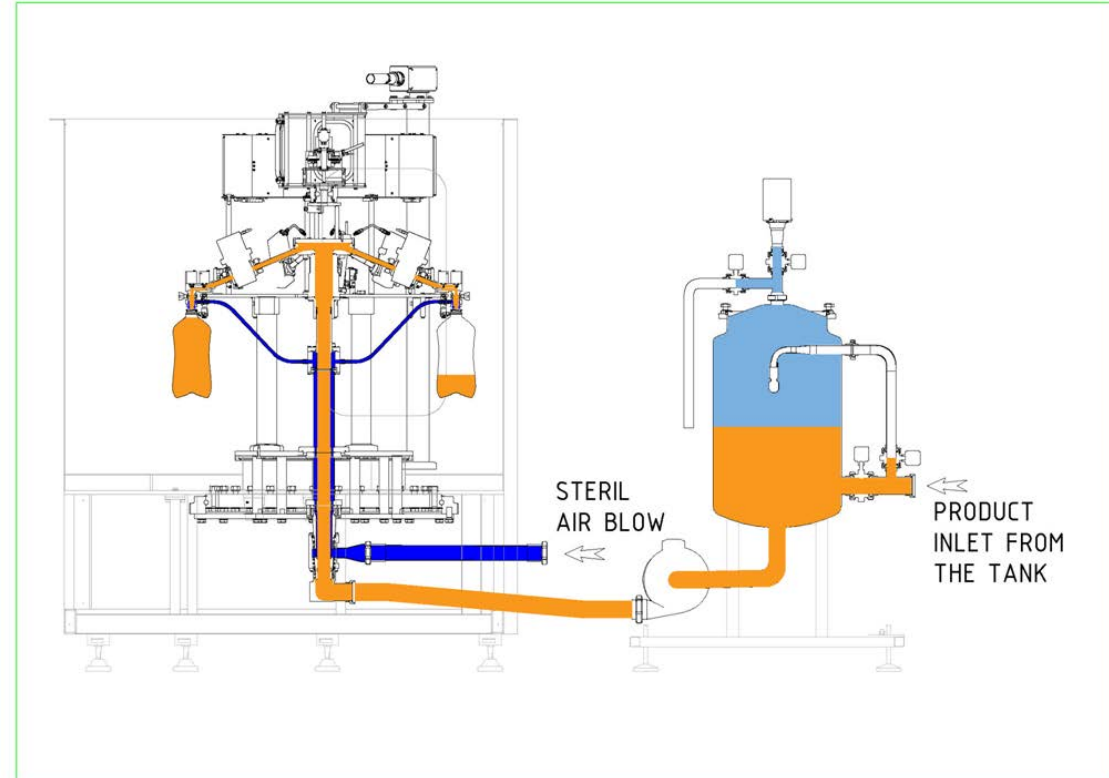
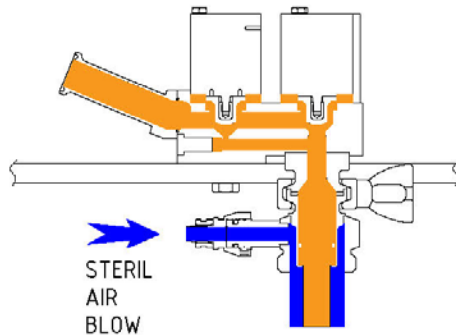
HEVF - OPTIONALS

- upper covering to completely isolate the machine from the external environment;
- sterile air blowing group to create over-pressure within the work environment;
- realization in AISI 316 of all parts in contact with the product;
- various possibilities to sanitize the cap before the capping phase (UV lamp, ionizer + aspirator, ozonized water).



HEVF - OPTIONALS - STERILE AIR BLOWING FROM THE FILLING VALVE

- sterile air blowing system (always active) which creates a cone of air between the filling valve and the bottle, to protect the product of the single bottle during filling. It is obtained by blowing sterile air into the CIP return pipe, which is not used during the filling phases.



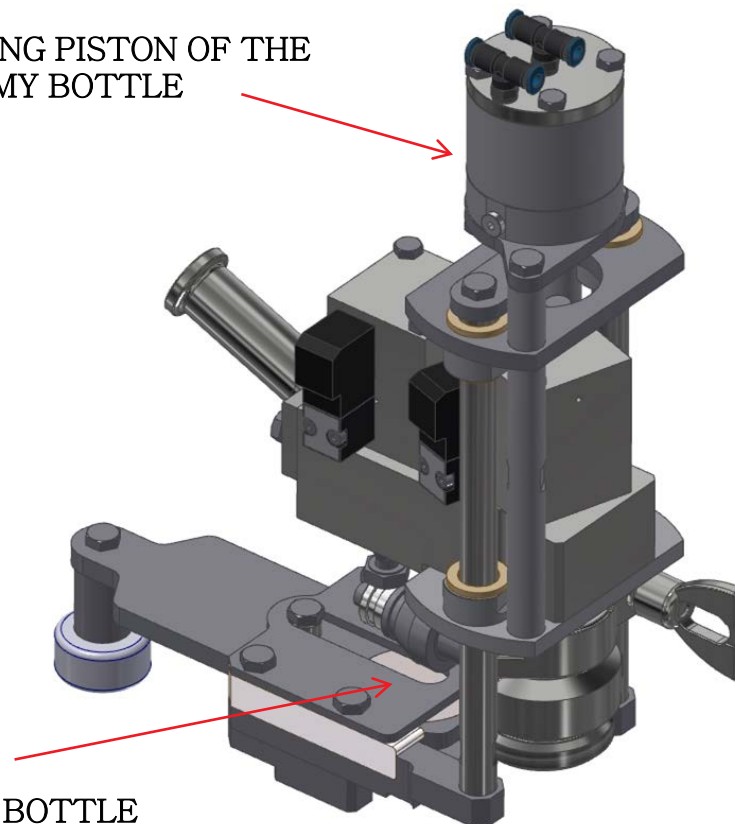
HEVF - OPTIONALS: DUMMY BOTTLE WITH AUTOMATIC SET UP

- possibility of automatic positioning of the dummy bottles operated via HMI.

Advantages:

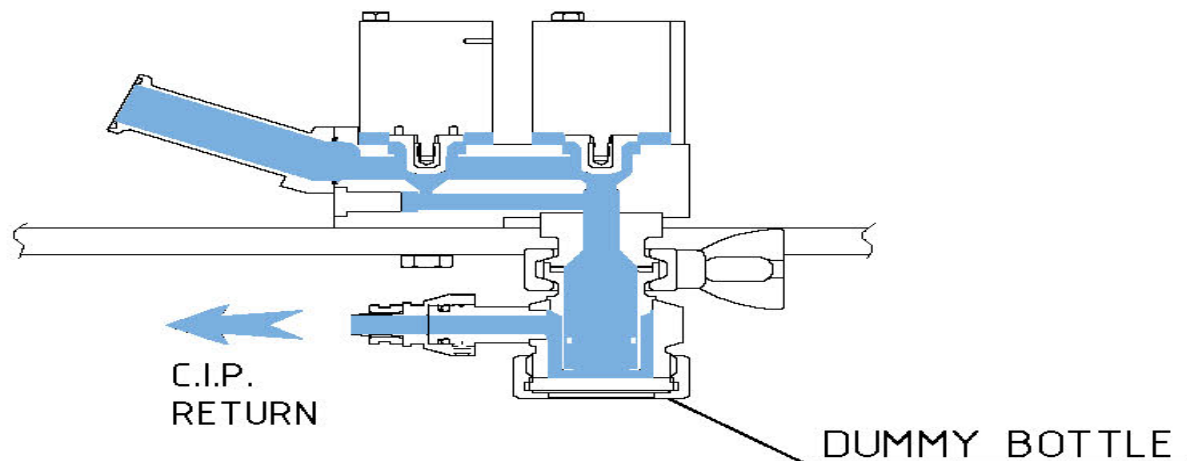
- reduction of machine preparation times for the CIP, especially for machines with a high number of filling valves;
- greater hygiene: it avoids contact between the operator's hands and valve + dummy bottle during the preparation of the machine for the CIP.

LIFTING PISTON OF THE
DUMMY BOTTLE



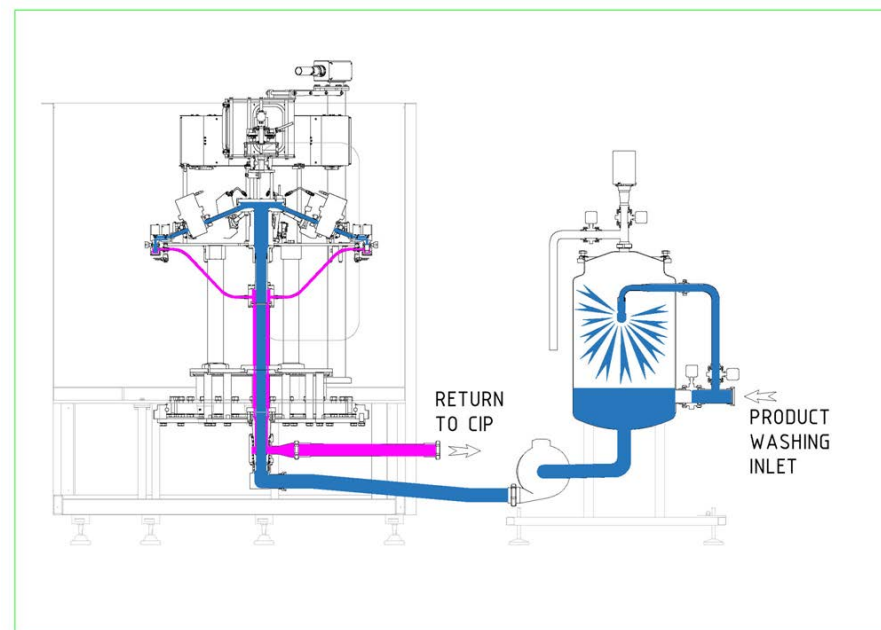
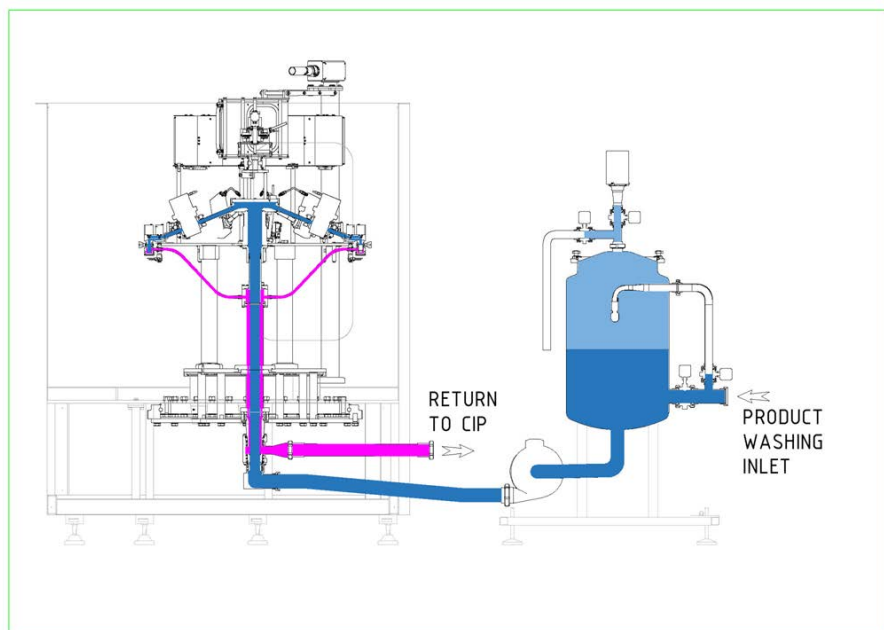
DUMMY BOTTLE

HEVF - CIP SANITATION



WASHING SYSTEM WITH
PRODUCT RECIRCULATION

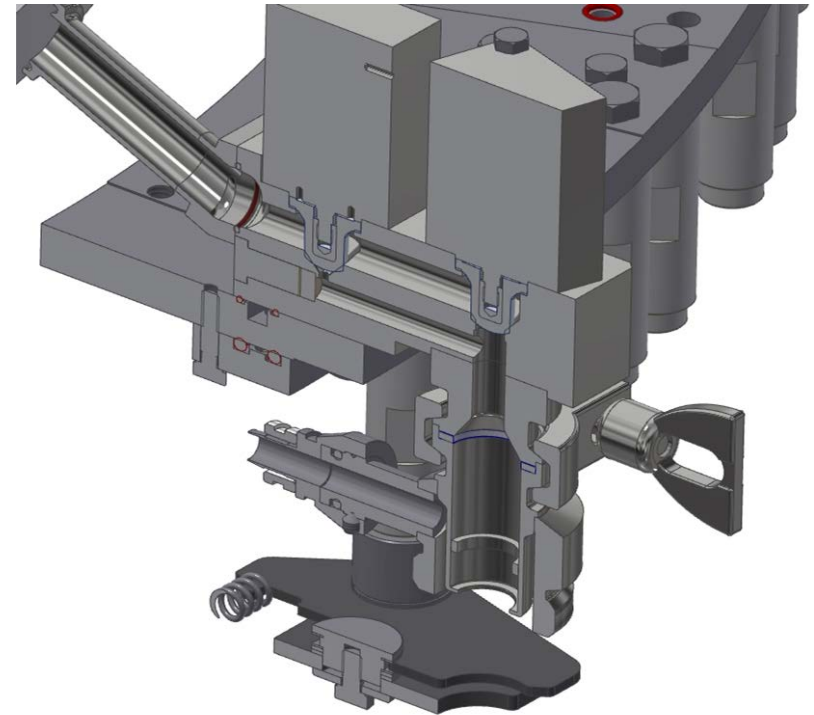
HEVF - CIP SANITATION



HEVF - FILLABLE PRODUCTS

The filling valve, the same for all the products, is completed with a dedicated valve terminal for each type of filling product ,in order to make the filling optimal. The products that can be filled with the HEVF machine are:

- flat water and ozonized water
- cold tea
- limpid juice (e.g. pineapple)
- fresh milk (7 days shelf life)
- wine vinegar and balsamic vinegar
- apple vinegar
- thick juice (e.g. pear)
- syrups
- soy sauce
- laundry and dish detergent



HEVF - FILLING SPEED

MAXIMUM SPEED ACHIEVABLE (bph) FOR HEVF FILLER HAVING 60 FILLING VALVES	
Flat water	48.000 (0,5 lt) – 23.000 (1,5 lt)
Juices	31.600 (0,5 lt) – 14.600 (1 lt)
Fresh milk	30.400 (0,5 lt) – 20.200 (1 lt)
Syrup	36.800 (0,5 lt) – 27.700 (1 lt)
Vinegar	40.500 (0,5 lt) – 28.200 (1 lt)
Detergens	35.000 (0,75 lt) – 13.400 (2 lt)

HEVF - FILLING SPEED - HC SERIES

MAXIMUM SPEED ACHIEVABLE (bph) FOR HEVF HC FILLER HAVING 20 FILLING VALVES	
Flat water	8.000 (5 lt) – 5.600 (10 lt)

ENOBORG filling machines since 1984



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