

 **enoberg**
filling your dreams



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WHO WE ARE?

Enoberg has been producing filling machines since 1984. Over the years we have focused on the design and the production of hi-quality filling machines to meet and satisfy the customers' needs for speeds from 1,000 up to 36,000 bph. The company is located not far from the city of Bergamo (northern Italy), in a facility of 3,500 m². State-of-the-art technology and constant innovation over the years, has enabled us to deliver user-friendly and reliable solutions to the market-place. In 2016 Enoberg became part of SMI Group, one of the world's largest producers of bottling plants and packaging machines. In the same year, Enoberg started a complete refurbishment of its facility.

OUR PRINCIPLES

We are a customer-oriented organization engaged in the design and manufacture of high technology bottling systems up to 36,000 bottles / hour, featuring the best price / quality ratio on the market. We want to provide our customers worldwide with innovative solutions capable of fully meeting their demands in terms of efficiency, reliability, flexibility and energy saving.

OUR CUSTOMERS' SATISFACTION

- We provide our customers with quality products and services they can always rely on.
- We undertake to maintain and enhance our customers' satisfaction.
- We are constantly in search for the best solution to meet our customers' demands when we develop a new product or we improve the existing ones.

OUR STAFF'S UNDERTAKING

- The success of our business is based on the enthusiasm, the engagement, the ability, the skillfulness, the creativity and the spirit of initiative of each individual working for us.
- The sharing of the same goals is a key factor for our organization's advance.
- The merger of the skills of all members of our staff is a vital resource of our company in order to achieve the best results.

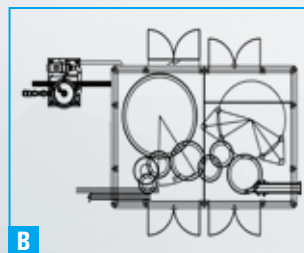
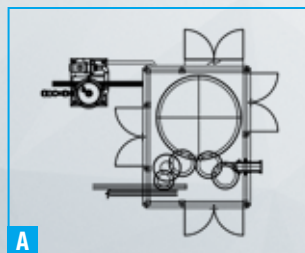
THE CHALLENGE OF CHANGES

- We exploit all the opportunities generated by changes.
- We change pro-actively the way we carry on our activity, so as to be successful forerunners in an ever-evolving world.
- We consider innovation as a key factor for the continuous enhancement of our wide spectrum of solutions.



**SAME STRUCTURE,
DIFFERENT POSSIBILITIES**

- Stand Alone
- Monobloc: Filler + Capper (A)
- Tribloc: Rinser + Filler + Capper (B)



NEW DESIGN OF THE STRUCTURE WITH MODULAR SYSTEMS

Supporting structure of the machine made out in stainless steel AISI 304, placed on adjustable feet. Basement without welding parts and with screwed parts to have a better rigidity of the machine structure. Machine complete with safety protection in according to CE norms integrated into the structure, with tempered glass panels. Every part that get in contact with product are made in stainless steel AISI 304. The machine is already provided with stainless steel conveyor frame.

MAN-MACHINE INTERFACE

The POSYC® control panel is a user-friendly system which allows an easy and efficient use of the filling machine. This is possible thanks to the extremely intuitive interface, the touchscreen and the advanced functions of diagnostics and real-time technical support.

SPECIFICATIONS: Human-machine interface industrial PC, featuring IP 65 protection grade, MS Windows XP EMBEDDED operating system, 7" touch screen LCD.

MOTORNET SYSTEM® AUTOMATION AND CONTROL SYSTEM

The hardware and software components are open and modular, complying with the EC regulations and relying upon proven standards of the industrial field and of the packaging sector: OMAC guidelines, SERCOS, PROFIBUS, IEC61131, OPC, Industrial PC. The automation and control of the machine are managed by the Motornet System® which, as far as the hardware is concerned, is made up of the following devices: MARTS (process controller), man-machine interface, COSMOS (digital servodriver for brushless motors) and I/O modules (remote or through electric panel IP65).



MOTION TRANSMISSION

The rotation of the main carousel and of each transfer wheel is made by dedicated brushless motors of the ICOS serie. These motors allow the automatic torque control, thus promptly stopping the machine in case of bottle sticking. The machine speed is electronically controlled. The Monoblock is also supplied with in and out sensors for automatic start/stop: they stop the machine in case of lack of bottle at the infeed conveyor or in case of bottle jam at the outfeed conveyor. The electronic control of the machine assures also to avoid the lubricating of the parts and this allows to the machine to be always perfectly cleaned and of easy maintenance for the operators.



	EVF	ELC	RLF	SPEED (bph)	BASED ON
STILL WATER	x			4,000 - 36,000	1.5 L
CARBONATED WATER		x		1,000 - 19,000	0.5 L
OIL			x	3,000 - 36,000	1 L
JUICES	x		x	3,000 - 36,000	0.5 L
FRESH MILK AND DAIRY	x			3,000 - 30,000	0.5 L
BEER		x		1,000 - 9,500	0.5 L
CSD		x		1,000 - 16,000	0.5 L
SAUCES			x	3,000 - 30,000	0.5 L
SPIRITS AND LIQUORS			x	3,000 - 24,000	0.75 L
VINEGAR	x		x	3,000 - 22,000	1 L
NECK-HANDLING VERSION	x	x	x		
BOTTOM-HANDLING VERSION		x	x		

ADVANTAGES

- Modular structure which can be customized.
- Compact filling module which minimizes the number of stars for bottle handling, while ensuring an easy access for maintenance and cleaning.
- Modular framework which allows optimization of the shipping dimensions, cutting the transport costs and making the machine suitable for standard road transport.
- Low operating and maintenance costs.
- Low risk of contamination, high level of hygiene.
- Excellent price performance ratio.



EVF SERIES - UP TO 36,000 BPH

ELECTRONIC VOLUMETRIC FILLING SYSTEM

ENOBERG's EVF series are cutting-edge filling machines for flat liquid products in PET bottles.

This filling system introduces innovative solutions suitable for products such as water, oil, milk, detergents, juices and vinegar.

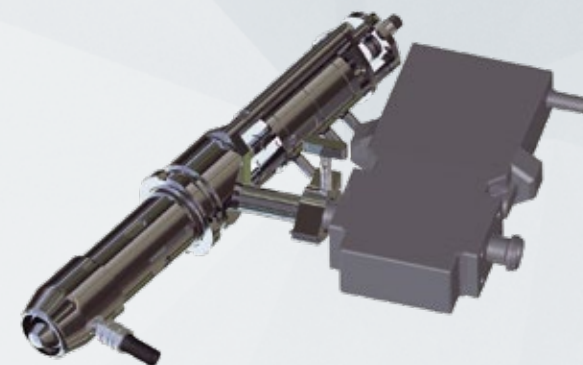
It is top of the range, user-friendly and easily serviceable.

The heart of the machine is the flow-meter: a high-precision electronic device, installed in proximity to the filling valve, which measures the amount of the filled product.

The flow-meter is available both in a magnetic version, used for products with an electrical conductivity above $30\mu\text{S}/\text{cm}$, and in a mass version, used for non-conductive products.

The filling valve, entirely designed by Enoberg, ensures low risk of bottle contamination during the filling, since it prevents the valve-bottle contact.

A higher level of hygiene could be reached installing the optional device "Sterile air blowing from the body of the filling valve", which creates a sterile air barrier around the bottle during the filling process.



Furthermore, the basic version is equipped with other technologically advanced solutions, such as:

- 7" HMI (Human Machine Interface) touch screen, supplied by SMITEC;
- Valve opening to manage two different filling speeds;
- Independent setting of each flow-meter by means of HMI;
- Independent movement of the machine axes through ICOS brushless motors with integrated control, in order to guarantee perfect synchronism between the stars and low noise during the functioning;
- Diagnosis of engine operating conditions through HMI;
- Quick bottle changeover parts and pre-programmed recipes, enabling a quick changeover at a software level;
- Dummy bottles (standard for EVF machine) installed in proximity to each filling valve, to be positioned in a quick and easy way.

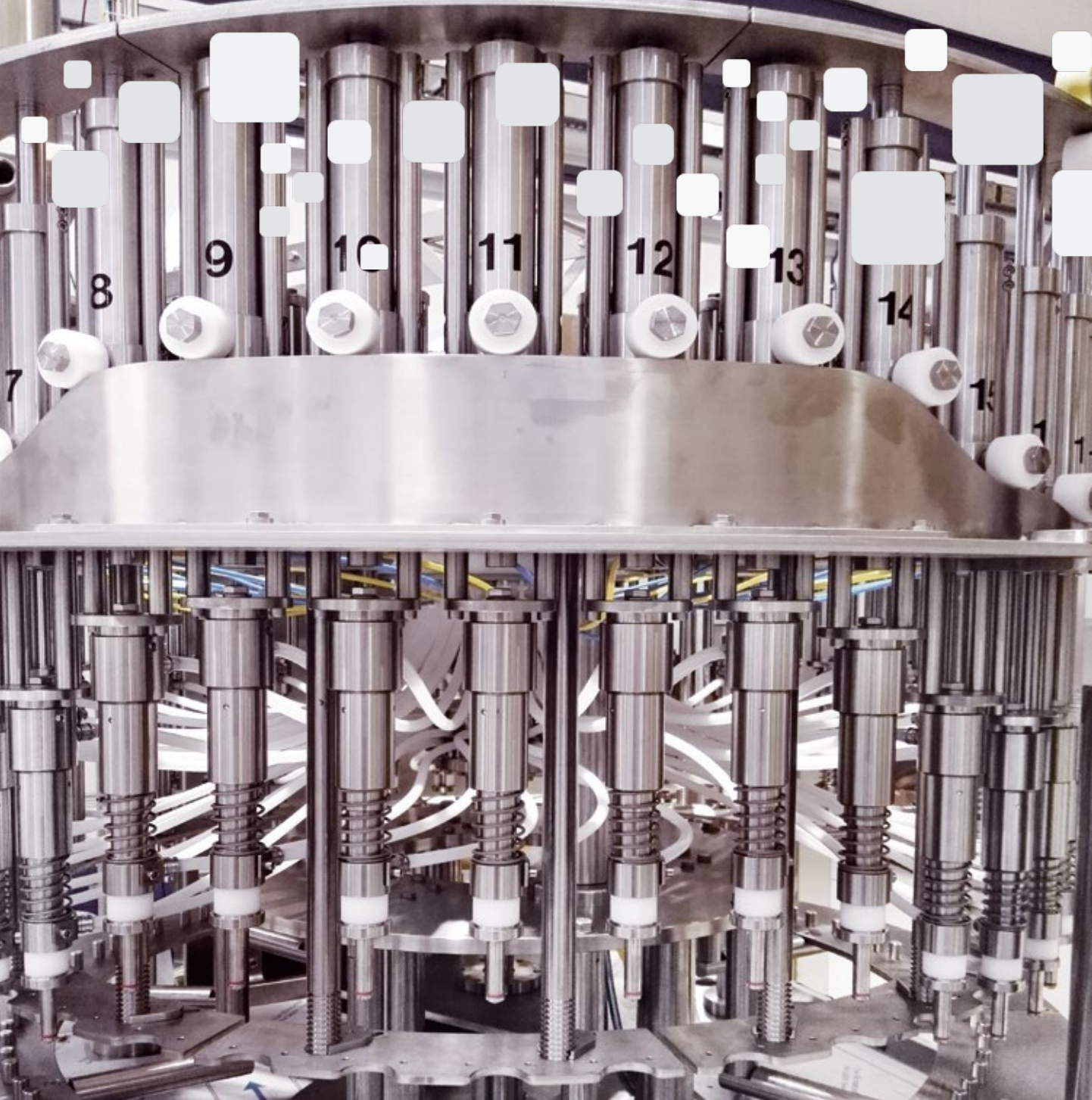


ENOBERG's EVF machine can be fully cleaned thanks to the dummy bottles installed next to each filling valve, and the spray ball contained in the product tank and to the piping system designed for recovering or recycling, depending on the needs, the washing solution.

Available in various sizes to cover an extended production range, EVF machines are supplied in filler/capper version, in rinser/filler/capper version, or in the innovative ECOBLOC® version, in which ENOBERG's filling/capping machine is combined to SMI's stretch blow moulding machine.



Bottles capacity	0.2 lt ÷ 12 lt (HC)
Production speed	1.000 ÷ 36.000 bph
Filling valves	9 ÷ 60
Available caps	Plastic screw cap, plastic pressure cap
Available bottle Ø	44 ÷ 125 mm (215 mm for the machine working High Capacity containers)
Available bottle height	160 ÷ 340 mm
Bottle handling	Neck Handling
Operator panel	SMITEC Touch screen 7"
Filling temperature	3 ÷ 30°C



RLF SERIES - UP TO 36,000 BPH

RECIRCULATION FILLING SYSTEM

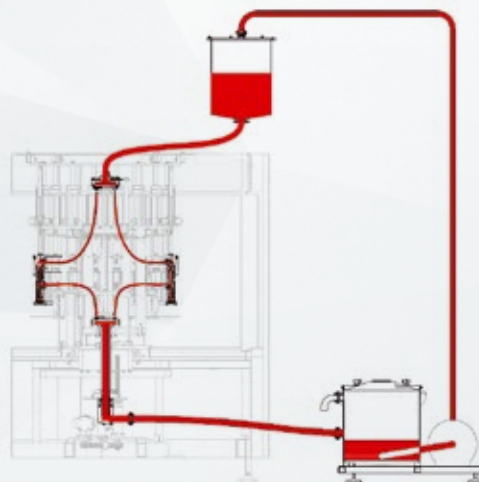
ENOBERG's RLF series is the most versatile filling machine both for glass and PET containers.

It is suitable for filling products such as vinegar, sauces and spirits at medium-high speed. The innovative recirculation filling system is able to bottle frothy products without affecting production; the excess product is collected in a small external tank, ready to be filled again. The machine can be configured for hot filling with recirculation system in order to guarantee a constant filling temperature and a return to pasteurizer of the product to be filled. Complete, versatile and easily serviceable, thanks to the filling valve entirely designed by Enoberg, it guarantees a high precision filling level.



The basic version is equipped with other technologically advanced solutions, such as:

- 7" HMI (Human Machine Interface) touch screen, supplied by SMITEC;
- Electrical regulation of the carousels height;
- Independent movement of the machine axes through ICOS brushless motors with integrated control, in order to guarantee perfect synchronism between the stars and low noise during the functioning;
- Diagnosis of engine operating conditions through HMI;
- Quick bottle changeover parts;
- Rapid and immediate regulation of the filling levels by means of spacers.



ENOBERG's RLF machine can be fully cleaned thanks to the dummy bottles, to the spray balls contained in the product tanks, to the piping system designed for recovering or recycling, depending on the needs, the washing solution, and to the Automatic cleaning phases (CIP).

Full featured in the basic version, the machine can be customized with different accessories, including:

- HOT FILL recirculation filling system;
- Components in contact with the product in AISI 316 steel;
 - Upper covering.

Available in various sizes to cover an extended production range, RLF machines are supplied in filler/capper version and in rinser/filler/capper version.



Bottles capacity	0.2 lt ÷ 3 lt
Production speed	1.000 ÷ 36.000 bph
Filling valves	16 ÷ 48
Available caps	Crown caps, plastic screw cap, aluminum screw cap, plastisc pressure cap
Available bottle	PET - Glass
Available bottle Ø	44 ÷ 125 mm
Available bottle height	160 ÷ 340 mm
Available filling valve Ø	6 ÷ 38 mm
Bottle handling	Bottom Handling
Operator panel	SMITEC Touch screen 7"
Filling accuracy	± 2 mm
Filling temperature	3 ÷ 90°C



ELC SERIES - UP TO 18,000 BPH

ELECTRO-PNEUMATIC COUNTER-PRESSURE LEVEL FILLING SYSTEM

ENOBERG's ELC series is the ideal machine to bottle carbonated products, both in PET and in GLASS containers.

Suitable for filling products such as sparkling water, carbonated soft drinks and beer, it adopts innovative solutions. It is user-friendly and easily serviceable. The heart of the machine is the electro-pneumatic filling valve (pneumatic valve propelled by electro-valve) for gravity level filling. The electro-pneumatic valve, entirely designed by Enoberg, facilitates the automation of all the filling functions: pre-evacuation, bottle pressurization, filling, auto-leveling. Equipped with a tank suitable to resist pressure up to 6 bar, ENOBERG's ELC filling machine covers an extended production range, thanks to the configuration from 5 to 48 filling valves. The beer version of the machine is configurable with a device intended to be used to perform an oxygen double pre-evacuation in the bottle before starting the filling phase; thanks to this optional device, the oxygen in the bottle is almost completely removed, in order to guarantee a longer shelf life to the beer, and to ensure its original taste.



Furthermore, the basic version is equipped with other technologically advanced solutions, such as:

- 7" HMI (Human Machine Interface) touch screen, supplied by SMITEC;
- Independent setting of each electro-pneumatic valve by means of HMI;
- Independent movement of the machine axes through ICOS brushless motors with integrated control, in order to guarantee a perfect synchronism between the stars and low noise during the functioning;
- Diagnosis of motor operating conditions through HMI;
- Quick bottle changeover parts and pre-programmed recipes, enabling a quick changeover at a software level;
- Dummy bottles to be positioned in a quick and easy way.

ENOBERG's ELC machine can be fully cleaned thanks to the dummy bottles and to the piping system designed for recovering or recycling, depending on the needs, the washing solutions and for sanitizing the in- and counter-current flow.

Available in various sizes to cover an wide production range, ELC machines are supplied in filler/capper version and in rinser/filler/capper version.



ELC 5-5-1 C MICROBLOC · UP TO 1,000 BPH

NEW MICROBLOC FOR MICROBREWERIES COMPLETE WITH RINSER, ISOBARIC ELECTRO-PNEUMATIC FILLER WITH DOUBLE PRE-EVACUATION SYSTEM AND SINGLE-HEAD CROWN CAPPER OF 1.000 BPH OF 330 ML.

The valve allows total flexibility in adjusting the filling cycle by adapting the vacuum and filling timings via PLC. The ELC 5-5-1 isobaric filler stands out for its "step-by-step" operation principle. To maintain a compact structure, the machine has been designed based on a linear type machine, with every phase of the machine positioned around a central star. This way, for the rinsing and filling procedures, the bottles are handled in groups of 5. The capper is not tied to this concept so the capping head applies the crown cap to every bottle that passes. The key advantage of a step-by-step machine is the short time required for the change-over procedure compared to the linear or rotating machines. The central star and the guides are the only components that need to be replaced, plus the adjustment of the height of the different devices. All motors and mechanical transmissions of the machine are installed below the machine base, to avoid any contact with the wet part of the machine.



ELC 5-5-1 C MicroBloc
VIDEO & BROCHURE
scan this QR code

Bottles capacity	0.2 lt ÷ 3 lt
Production speed	1.000 ÷ 18.000 bph
Filling valves	5 ÷ 48
Available caps	Crown caps, plastic screw cap, aluminum screw cap, plastic pressure cap
Available bottle	PET - Glass
Available bottle Ø	44 ÷ 125 mm
Available bottle height	160 ÷ 340 mm
Bottle handling	Neck Handling - Bottom Handling
Operator panel	SMITEC Touch screen 7"
Filling accuracy	± 2 mm
Filling temperature	0 ÷ 20°C



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