

**POLYMER
MICROFILTRATION SYSTEM**



Process

Pre-bottling microfiltration (which guarantees the biological cold stabilization of the product) is one of the most critical point in the production chain since it is the last phase before being placed on the market.

This process is commonly carried out using multi-stage cartridge filters.

The **M** line is the new patented pre-bottling microfiltration system for biological stabilization with a single filtering device.

Applications

The innovative polymer can process liquids with no filterability index without any clogging danger or damage.

The filter is suitable for:

- Pre-bottling microfiltration of beverages
- Other application

Benefits



Single filtration step



Saving of cartridges



Saving of working times

System highlights

CLEANING	The unit is sanitized with hot water, while regeneration is carried out with alkaline chemicals.
POLYMER	Specific configuration and geometry of the innovative filtering polymer enhances product peculiarities from an organoleptic point of view.
MODULAR DESIGN	Each model can be expanded by adding a filter element to obtain a higher hourly flow.
AUTOMATION	The plant is also available in a fully automatic version with the storage of processing data for traceability of the supply chain.
INTEGRATED CIP for BOTTLING	The integration of the cleaning CIP allows to have in a single block an automatic microfiltration system and a CIP unit for the bottling line

Models

	M1
Filtrate rate	1500-2500 b/h
Dimensions	900x750x1700
Weight	120 Kg



	M2
Filtrate rate	3000-5000 b/h
Dimensions	900x750x1700 mm
Weight	160 Kg

Models

M2 auto

Filtrate rate	3000-5000 b/h
Dimensions	1300x800x1700 mm
Weight	270 kg



M3 auto

Filtrate rate	4500-7500 b/h
Dimensions	1400x800x1700 mm
Weight	300 kg

M4 auto

Filtrate rate	6000-10000 b/h
Dimensions	1500x800x1700 mm
Weight	330 kg



Modelli

	M2 + CIP
Filtrate rate	3000-5000 b/h
Dimensions	2400x850x1800 mm
Weight	330 kg



	M3 + CIP
Filtrate rate	4500-7500 b/h
Dimensions	2700x850x1800 mm
Weight	360 kg

	M4 + CIP
Filtrate rate	6000-10000 b/h
Dimensions	3000x850x1800 mm
Weight	410 kg



**CARTRIDGES
MICROFILTRATION SYSTEM**



Process

The product to be filtered goes (from outside to inside) through the filtering cartridges installed in a stainless steel housing. The final filtration size is reached installing one or more filtering units in series.

Applications

In beverages, cartridge microfiltration systems are used as a pre-bottling filtering unit ensuring the product sterilization.

In industry these systems are used for polishing filtrations.



Cartridges

Type of cartridges:

- Connection: code 7 (226) or DOE (flat gasket)
- Material: PES, PP, Nylon
- Pore size: from 0,22 to 5 micron (or higher)

Features

FILTRATION STAGES

The systems can have several stages in series with cartridges of different pore size.

Example: 1 μ - 0,65 μ - 0,45 μ

ACCESSORIES

Microfiltration units with cartridges are equipped with components including butterfly valves, ball valves for venting and draining, pressure gauges for pressure control.

OPTIONAL

- Supporting skid
- Multi-By-pass with valves
- Automation of working phases by means of remotable touch screen PLC

Models – Beverages

HOUSINGS

Models from 1 to 15 cartridges of 20'' – 30'' or 40'' length

Models	
1x30''	750 L/h
1x40''	1000 L/h
3x30''	2250 L/h
3x40''	3000 L/h
5x30''	3750 L/h
5x40''	5000 L/h
7x30''	5250 L/h
7x40''	7000 L/h
9x30''	6750 L/h
9x40''	9000 L/h
12x30''	9000 L/h
12x40''	12000 L/h
15x30''	11250 L/h
15x40''	15000 L/h



Models – Beverages



Models – Industry

- Systems used for polishing
- Single-stage or multi-stage in series; parallel vessels for doubling the flow rate.
- DOE cartridges (flat gasket) installed
- A pump for the cartridges' washing is required

Models	N. stage	Cartridges	Filtrate rate
MD07	1	7x40''	2000 L/h
MD14	2	7x40''	2000-4000 L/h
MD30	2	15x40''	5000-8000 L/h



MICROFILTRATION DEVICES



FILTERABILITY INDEX MEASURING DEVICE

PROCESS

The filterability index is a preliminary test that checks if the liquid to be filtered will clog the microfiltration cartridges. The filtration rate is calculated by means a membrane (diameter 25 mm at 0.65 micron) monitoring the volume of liquid filtered over a certain period of time.

APPLICATION

Beverages.

MODEL

IF model is a device for manually performing of the filterability index upon liquids before bottling. Compact dimensions allow it to be used in any working site and the base has a height-adjustable support.



CONTROL UNIT FOR INTEGRITY TEST

PROCESS

The control unit performs an integrity test of the microfiltration cartridges by checking the pressure seal applied on the cartridge itself.

The software allows the setting of the pressure and stabilization time parameters for two different types of cartridge pore size.

When a positive test is done but with a lower pressure than the set one, operator can choose to repeat the test or modify the parameters.

At the end, data are stored in an internal memory and can be transferred to external devices (USB, etc.)

