

# WINE FILTERS – PRE-BOTTLING AUTOMATIC MICROFILTRATION SYSTEMS - TANGENTIAL SYSTEMS – FILTERING CARTRIDGES

Leaflet S-02-00



# FLUXA

**Fluxa  
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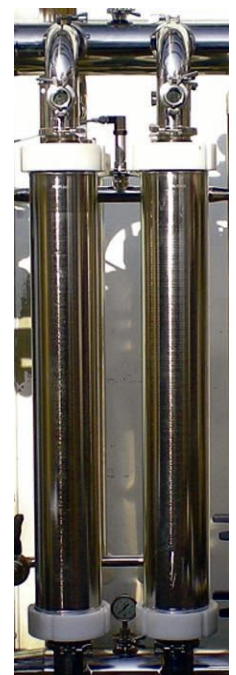
Thanks to our team of technical and engineering professionals, we are able to develop projects ranging from single-cartridge housing to housings with up to 60 cartridges and with diameters up to 1600 mm.

The systems are designed both for high working pressures and temperatures, and for process fluids filtration.

Fluxa Filtri designs its housings according to European standards and according to PED (Pressure Equipment Directive) - Category IV

It is essential to make the right choice of filters for your individual needs

Our technical team can support you in choosing the right filter for the ideal filtration of your product, and in designing the best system to optimise materials and costs.



## HOLLOW FIBRE TANGENTIAL SYSTEMS FOR WINE



Fluxa Filtri provides tangential filtration systems using polymeric hollow fibre membranes. The automatic or semi-automatic system is used both for standard and sparkling wines, and allows the removal of yeast and the suspended solids without interfering with, or altering, the organoleptic qualities and aspects of the treated products. The field of use for this type of installation ranges from 2.500 l/h up to 10.000 l/h and beyond.

### The system consists of :

- Hollow fibre modules for tangential microfiltration
- Electric panel (equipped with PLC and operator touch panel)
- Wine tanks (raw and filtered)
- Process pumps
- Metering pump for cleaning chemicals
- Instruments and automatic valves to allow the performance of the individual cycles

### Technical characteristics of the tangential filter :

- Membrane : hollow fibre
- Membrane material : polyolefin
- Filtration area : 10 m<sup>2</sup> / module
- Maximum transmembrane pressure : 1.5 bar
- Minimum filtration temperature : -4°C
- Maximum temperature (cleaning): 40°C
- Materials in contact with the product : FDA approved
- Maximum pressure : 6 bar (isobaric version)



### Tangential filter operation

The FXF is an automated system for the tangential filtration of wines.

The following steps are automatic :

- Filling the machine with wine
- Production with backwashes and pumping of the filtered wine into the final tank
- End of production determined by flow-meter and other operational parameters (such as temperature, pressure, time)
- Concentration of the wine in the recirculation tank to minimize material wastes.

The FXF system performances depend on the type of product and models used for filtering. The operating conditions listed refer to the plant shown in the photo :

- Flow Rates : 20-50 hl/h
- Working pressure : 1-1.5 bar (plus the isobar pressure in the case of sparkling wines)
- Increase in the average temperature of the wine : max 3° C
- Max.input turbidity : 500 NTU

### Materials

The materials in contact with the product and the piping are made of AISI -food interior finished (< 0.8 µm Ra). All connections on the process lines are DIN 11851 with EPDM seals.

The membranes are in polyolefin with 316L stainless steel housings.

The subsequent emptying phases of the system and of cleaning / rinses are also automatic but controlled by the operator through manual control panel (touch screen).

### AVAILABLE TANGENTIAL SYSTEMS MODELS

SYSTEMS	MODULES	FLOW RATES l/h	Kw
FXF-04	4	2000-5000	~ 6/8
FXF-06	6	3000-7500	~ 11/12
FXF-08	8	4000-10000	~ 15/16
FXF-12	12	6000-15000	~ 17/19

## PRE-BOTTLING MICROFILTRATION AUTOMATIC SYSTEMS



We provide pre-bottling wine filtration systems, totally automated and equipped with CIP (cleaning in place), allowing sterile filtration using polyethersulphone cartridges with flow rates that can be increased accordingly to customer needs.

### The system shown includes :

- Wine microfiltration group consisting of 3 sanitary housings each with 8 x 30" cartridges.
- Water filtration group consisting of 2 sanitary housings each of 5 x 30"
- Chemicals dosing groups
- Insulated 600 lt. tank
- Heat exchanger with steam control group
- Nitrogen filtration group with two pressure regulators (to test cartridges integrity and move the wine into the bottling machine)
- CIP return/recovery group
- Instruments and valves necessary for the correct operation of the system
- Metering and centrifugal pump for CIP
- Electric panel with free contacts for rinsing and filling units.
- Operator panel (touch screen)
- Software
- Operator manual

The FMF is an automatic filtering wine system designed to meet the filtration needs of still / sparkling wines before the bottling plant.

The following steps are totally automated :

- Production of wine with three filtration steps
- Production of wine with two filtration steps
- Steam sterilization of final filters (wine-water)
- Steam sterilizing of the filling machine
- Sterile filtration of the water for the bottle rinsing machine
- CIP with chemicals
- Washing of the filters with warm (50° and 85°C) and cold water
- Back washing of filters
- CIP of the filling machine
- Integrity test

The automatic operation of the system is ensured by a Siemens PLC and a industrial PC touch screen which acts as operator pannel. The plant is mounted on an Aisi 304 skid

### Materials

The material in contact with the product and the piping is Aisi 316 with food interior finishing (< 0.8 µm Ra). All connections on the process lines are DIN 11851 with EPDM seals

### Software

The operative software of the plant is responsible for the inspection and the correct function of the above mentioned steps.

## CARTRIDGE FILTERS

We have a wide range of cartridge filters and filter bags for all the filtration needs that you can find in the winery, (wine filtration, washing water, dryers for compressed gases, filtration of well, municipal and process water).



Polyethersulphone cartridges are the best solution for the removal of particulate and yeast before bottling. Single and / or double layer polyethersulphone is ideal for cold wine stabilisation.

As pre-filters, to protect the PES final cartridges, filter elements in polypropylene or glass fibre are used. The choice of the filter element depends on the characteristics of the wine to be treated. These pre-filters are designed to avoid early clogging in the final cartridge.

### TECHNICAL DATA OF THE FILTERS FOR WINE :

	MATERIAL	FILTRATION SYSTEM	RATING
Poliflo Star-PP	Pleated depth polypropylene	prefilter	from 0.5 to 75 micron
Poliflo Star -GF	Pleated depth polypropylene - glass fiber	prefilter	from 0.6 to 2 micron
Filter bags	Polypropylene / felt / mesh	prefilter	from 1 to 1250 micron
Poliflo W-PP	Pleated polypropylene	prefilter	from 0.5 to 90 micron
Poliflo W-PES	Double layer polyethersulphone	final	from 0.45 to 0.65 micron

### TECHNICAL DATA OF THE FILTERS FOR WATER :

	MATERIAL	FILTRATION SYSTEM	RATING
Deltapor LD	Polypropylene / nylon	clarification	from 5 to 100 micron
Poliflo HFC	Polypropylene / glass fiber	clarification	from 1 to 90 micron
Poliflo Star-GF	Pleated depth polypropylene - glass fiber	clarification	from 0.6 to 2 micron
Poliflo PES	Single layer polyethersulphone	final	from 0.2 to 1.2 micron