

# OMNIA CROSS- FLOW FILTER

for wine filtration and unequalled  
recovery of wine from lees



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# KEY HIGHLIGHTS

Della Toffola Group is a world leader in the design and construction of technologically advanced solutions for every step in the winemaking process.

8

PRODUCTIVE  
UNITS

8

BRANCH  
OFFICES

600

EMPLOYEES

80%

EXPORT

190.000

SQ M

140M €

TURNOVER



# OMNIA CROSSFLOW FILTER

## BUSINESS NEED

Every company uses filtration for two fundamental reasons:

- To **obtain the highest clarity while recovering the maximum amount of product**, especially with high value products,
- To **keep processing losses to a minimum**.

## OUR SOLUTION

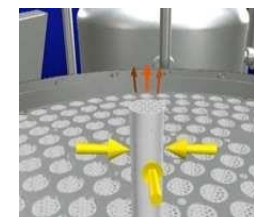
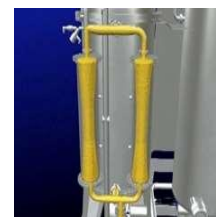
Della Toffola has designed its **new OMNIA filters** expressly to work with lees and any liquid with high solids.

This filter model offers the exclusive possibility of obtaining **final concentration of over 90%**



# MAIN FEATURES

- **Crossflow filtration**
- Usage of **only ceramic membranes** that are so highly regarded for their superior quality and mechanical resistance
- Long duration guaranteed by a **preliminary filter/screener with self-cleaning** by stainless steel brushes
- Filtration vessel containing the membranes has a **built-in head cleaning system** with brushes.
- Unique backflushing system



# MAIN FEATURES

## CROSS-FLOW FILTRATION

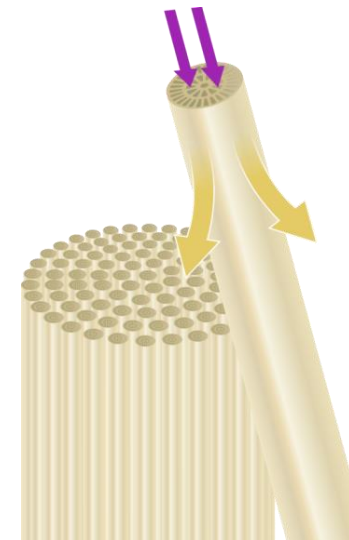
- Cross-flow filtration is the **flow of liquid tangential to the surface of a membrane whereby the solids are separated by the pressure differential.**
- Factors that impact flow speed include diameter of membrane, pump capacity, viscosity of product, membrane symmetry



## CERAMIC MEMBRANES

### **SOLID ASYMMETRICAL MEMBRANE with STRONG MECHANICAL RESISTANCE**

- Titanium backbone with ceramic bake
- High temperature resistant
- Best uniformity and density of pores. Flow dynamic and design of membranes allows best self cleaning of the membrane during filtration



# MAIN FEATURES

## CONTINUOUS LEES-HIGH SOLIDS SUSPENDED FILTRATION

- The versatility and high output potential are multiplied by the **parallel use of several filters with the aid of cluster tanks.**
- **Suitable for product with very high suspended solids.**
- It **optimizes filtering times and costs** with wine and juice recovery.



## AUTOMATION – INDUSTRY 4.0

- **M-int.cloud technology.** A whole cloud-based ecosystem
- Machines can be **remote controlled** for process management, technical assistance, SW updating, programming and more.
- **Access to statistical data** on profitability and quality control as well as programming and supervising production.
- **Protected access**, top-level server security, and data encryption.



# MAIN APPLICATIONS

OMNIA high-solids cross-flow filters are designed and constructed for the **highest efficiency when working with lees** from:

- Grape juice
- Wine

The following **can all be filtered from wines**:

- Wine lees at the end of fermentation
- Wines lees after clarification
- Clarified wines
- Unclarified wines



# MAIN ADVANTAGES

## OPERATIONAL AND QUALITY

- Remarkable **modularity** between all versions
- It can be **programmed to start the filtration whenever you like.**
- Can be used in **batch filtration or continuous filtration.**

## COSTS EFFICIENCY

- **No need for several cycles** - wine ready for bottling
- **Recovery of wine from lees**
- **Completely automatized.** It may be controlled remote and thus there is no need for personnel which reduces costs.
- **Guarantee of a long duration** of the membranes
- The cleaning of the filter (CIP) is done with ordinary lye and a booster that is based on acid. **No expensive enzymatic detergents required.**

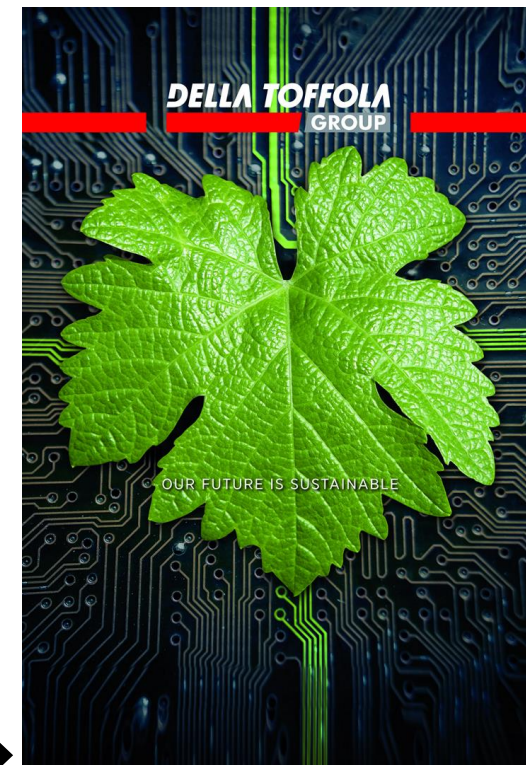
## SUSTAINABILITY

- **No use of Diatomaceous earth**
- Increased worker health safety



▲ Final filtrate recovery of over 90%

Sustainable. No Diatomaceous earth ▶



# MAIN ADVANTAGES

## KEY BENEFITS

- **Low power consumption**
- **Low washing water consumption**
- **Low hold up volume**
- **High-temperature washing possibility**
- **Sturdy construction, high mechanical strength**
- **Prolonged filtration cycles**
- **Compact, modular design** from 20 to 170 m<sup>2</sup> and multiples of the same
- **Flowrates** from 15 to 30 l/m<sup>2</sup>/h with product 20 – 30% v/v
- **Maximum concentration** 85 – 90 % v/v
- **Membranes available with different porosity** (0.2 – 1.4 μm) and **feeding ducts** (3.5 – 4.5 – 6 mm)
- **Long working life and guarantee**



# MAIN ADVANTAGES

## KEY BENEFITS

- All the wine's distinctive characteristics are maintained, including the most important substances for its stability, such as such as mano-protein and protector colloids.
- Wines ready for bottling can be obtained: filterability index < 10°S starting from pre- or post- clarification products
- Wines with 0 NTU turbidity, can be obtained by starting from values ranging from 25 to 1,000+ NTU.
- No oxygen absorption
- No reduction in color
- No need for filtration aids of any kind
- Duration of filtration elements up to 5 times longer than the organic membrane average.
- Filtration of clarification lees containing substances such as carbon, bentonite, casein, etc. with final filtrate recovery of over 90%



# THANK YOU

For further information please visit:  
[www.dellatoffola.us](http://www.dellatoffola.us)

