



WINE FILTRATION MOBILE PLANT

MAGNEXFLO





MOBILE PILOT FILTRATION PLANT

INTRODUCTION

New techniques for wine filtration in tank transfer and bottling applications are continuously evolving with the development of innovative technologies, delivering improved performance and simpler management.

TECHNIQUES

focus

PRESERVES THE NATURE OF WINE

Most wineries currently adopt traditional filter aids such as diatomaceous earth, perlites and cellulose to achieve clarification of wine.

Today these techniques are outdated and their operating limits have been identified:

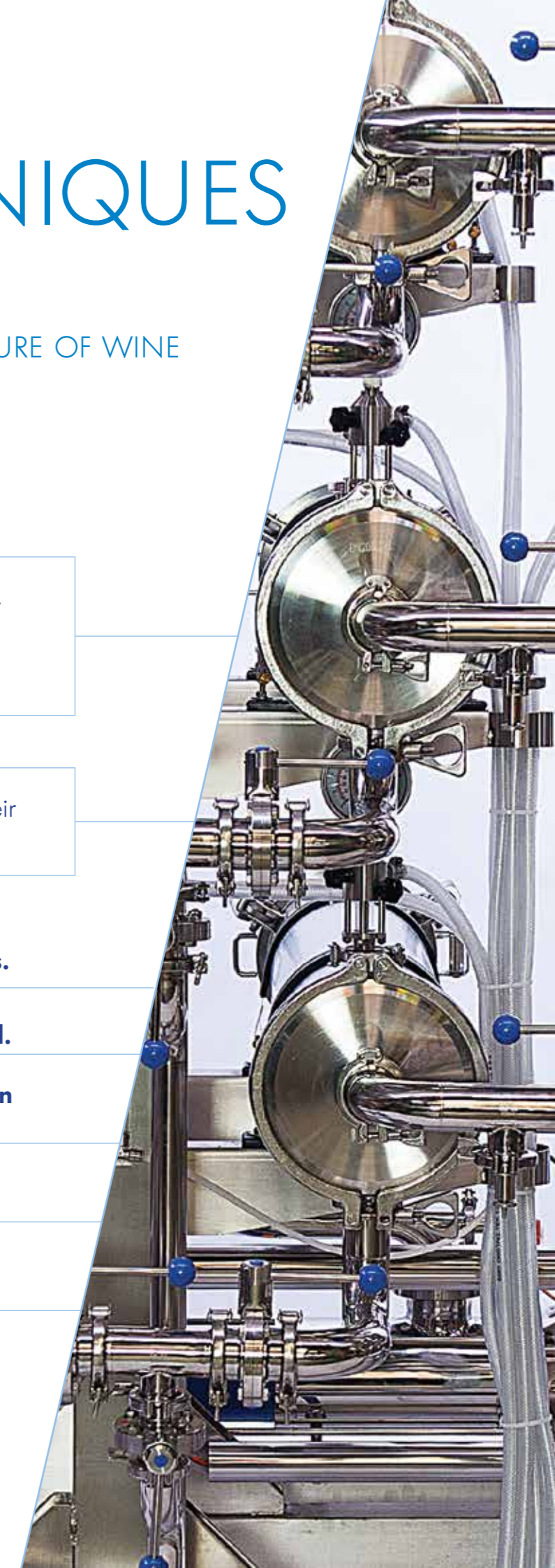
Hazardous powder inhalation by operators.

High costs for exhausted filter aids disposal.

Loss of output product due to the adsorption properties of the same filter aids.

Potential release of particles and heavy metals inside the wine.

Wine oxidation with subsequent decay of organoleptic properties





MAGNEX

THE HEART OF
THE SYSTEM

At the heart of the system lies the **LARGE DIMENSION** of **MAGNEX** filter element, which is characterized by the capacity to retain a huge quantity of contaminants and colloidal particles. The service life is notably higher compared to the classic filter elements currently used, as well as being easily regenerable.

BEA Technologies' **MAGNEX** is exceptionally effective due to its pleated multi-layer polypropylene filter media construction.

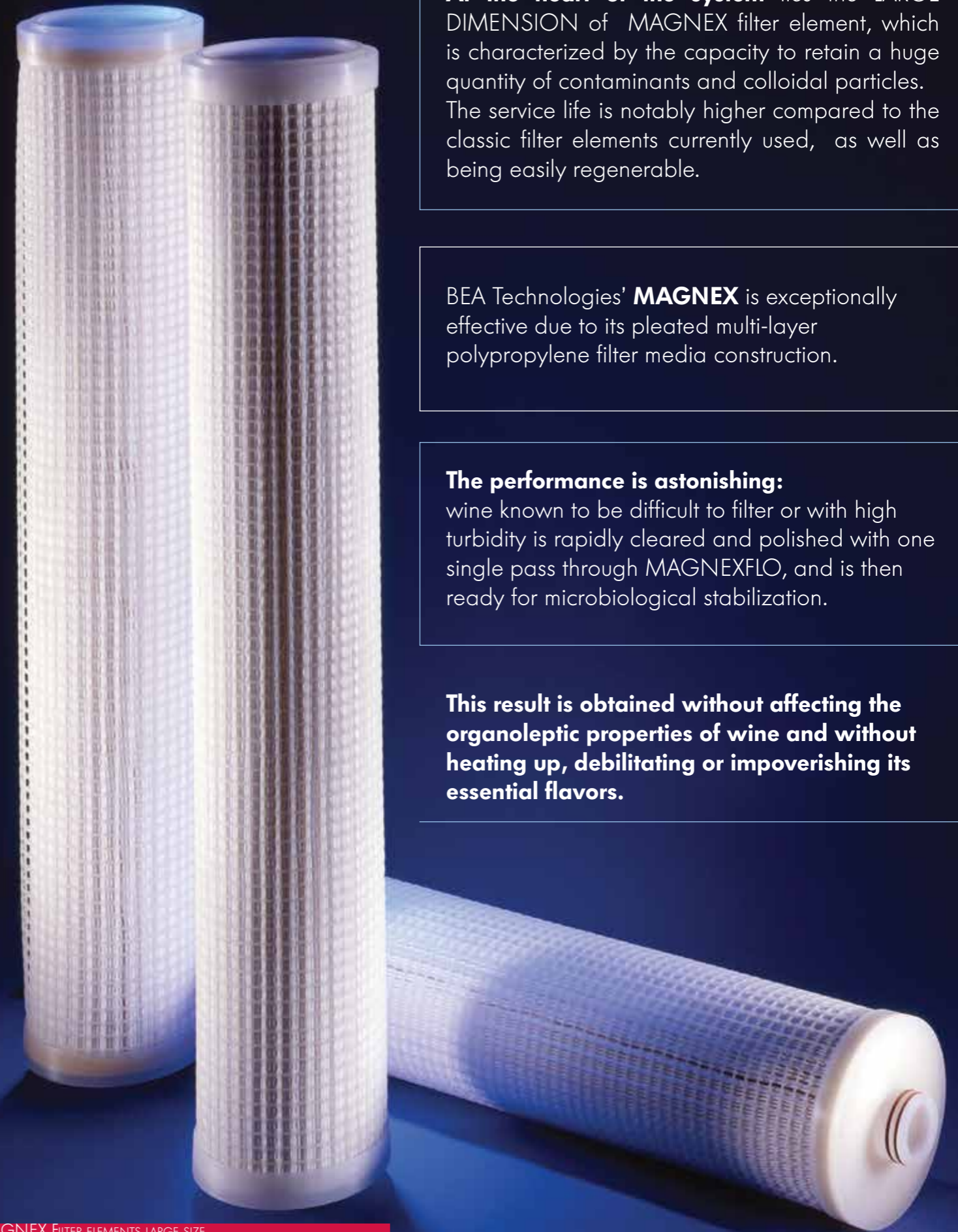
The performance is astonishing: wine known to be difficult to filter or with high turbidity is rapidly cleared and polished with one single pass through **MAGNEXFLO**, and is then ready for microbiological stabilization.

This result is obtained without affecting the organoleptic properties of wine and without heating up, debilitating or impoverishing its essential flavors.

OUR SOLUTION

The system designed by BEA Technologies is the solution to all these issues. **MAGNEXFLO** represents the Italian solution for wine filtration combining filtration efficiency with the preservation of the nature of wine.

Our engineers, in cooperation with enologists and universities, have designed an up-to-date, simple and safe system to purify raw wine with many benefits when compared to crossflow filtration.



MAGNEX FILTER ELEMENTS LARGE SIZE

STANDARD FEATURES

tech data

Lower cost compared to a typical cross-flow plant with the same throughput capacity.

Highly flexible “modular” construction with wide choice of filtration elements to achieve customization to the type of wine to be polished.

Reduced operational costs

Direct filtration without the need to recirculate

Wine is not heated up throughout the filtration stage

Entirely manufactured in Stainless Steel 316 L

Delivered with full safety certification and PED certificate for utilization in compliance with all European and national regulations of pressure vessels

Mechanically polished surface finished to 0,8 RA

FLOW RATE HL/HE	STAGES OF FILTRATION IN LINE	N° OF FILTER ELEMENTS FOR EACH STAGE	MODEL
30	3	1	MF 300
90	3	3	MF 900
120	3	4	MF 1200
150	3	5	MF 1500
180	3	6	MF 1800





OPTIONAL FEATURES

Automatic backflushing with multiple possible setups

Additional filtration stage for microbiologic stabilization

Automatic integrity tester for membrane stabilization control after flushing and line sterilizations

Isobaric version for operation at 6.0 bar for sparkling wines

AVAILABLE VERSIONS

Fully automatic (PLC controlled) with user friendly dedicated software

Semiautomatic for lower cost implementation

Totally manual for smaller and less expensive plants



ADDITIONAL MICROBIOLOGICAL STABILIZATION STAGE
CONSTRUCTION DETAILS OF THE PLATE FOR CARTRIDGE
MOUNTING
SAFE SYSTEM FOR FILTER CLOSURE

THE PLANT, PIPING AND PARTS ARE IN COMPLIANCE WITH
FDA AND CE REQUIREMENTS FOR FOOD CONTACT

THE FILTRATION SYSTEM, PIPING AND COMPONENTS COMPLY
WITH FDA REQUIREMENTS FOR FOOD CONTACT.

SUGGESTED LAYOUT



The automatic version constantly monitors all phases of the process. The software continually measures and displays hourly flow, pressures and temperatures.

The wash, CIP and regeneration phases are preconfigured to optimize operational safety and the use of water, chemical solutions and energy.

The automation minimises human errors and requires very little human attention, freeing up resources that can be used elsewhere.

Our staff composed of oenologists and technicians can carry out all the necessary trials to optimally configure the filtration systems in order to meet the objectives and requirements of each single winery.

They also hold theoretical and practical training to instruct winery personnel in the use of the system.

CASE HISTORY

Field trials

We have carried out a variety of tests on different wine types coming from various regions in order to optimize the MAGNEXFLO system. During the tests we have logged the most important process parameters. The table below shows some of the sample results obtained with the pilot system.

Q hl/h	WINE AREA	TYPE OF WINE	PREVIOUS TREATMENT	TEMP/°C	HL TOTAL	IF* INLET	IF* OUTLET	NTU* INLET	NTU* OUTLET
60	Oltrepò pavese	Bonarda 2015 Not decanted	Centrifugation at the end of fermentation	10	1000 in 15 h	INC	15	42	0,5
50	Valle d'Aosta	Pinot Gris	Clarified and decanted	0	50 in 1 h	INC	1	5	0,30
50	Valle d'Aosta	Table red wine	Clarified and decanted	2	110 in 2 h	INC	4	21	0,18
80	Puglia	Nero di Troia 2015	Clarified and NOT decanted	10	300 in 4 h	INC	25	25	0,12
60	Abruzzo	Montepulciano Biologico 2014	Clarified and decanted	10	120 in 2 h	INC	28	5	0,20
60	Abruzzo	Montepulciano Biologic 2014	Clarified and NOT decanted	10	120 in 2 h	INC	28	26	0,20

*IF= Filterability Index *NTU= Nephelometric Turbidity Unit

MAGNEXFLOW has met in full all of the requirements of the oenologists that were present. The quality/price ratio compared to the filtration time makes the system ideal for preparation of wine prior to bottling.





Filtration & system solutions

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