

## SUCCESS STORY

Dynamic crossflow filtration  
for wine at Toso S.p.A., Italy



SEPARATION  
**RECOVERY**  
**FROM WINE LEES**  
PROFITABILITY MEETS EFFICIENCY

**ANDRITZ**

ENGINEERED SUCCESS

# The challenge

## A step forward in cost efficiency and yield recovery

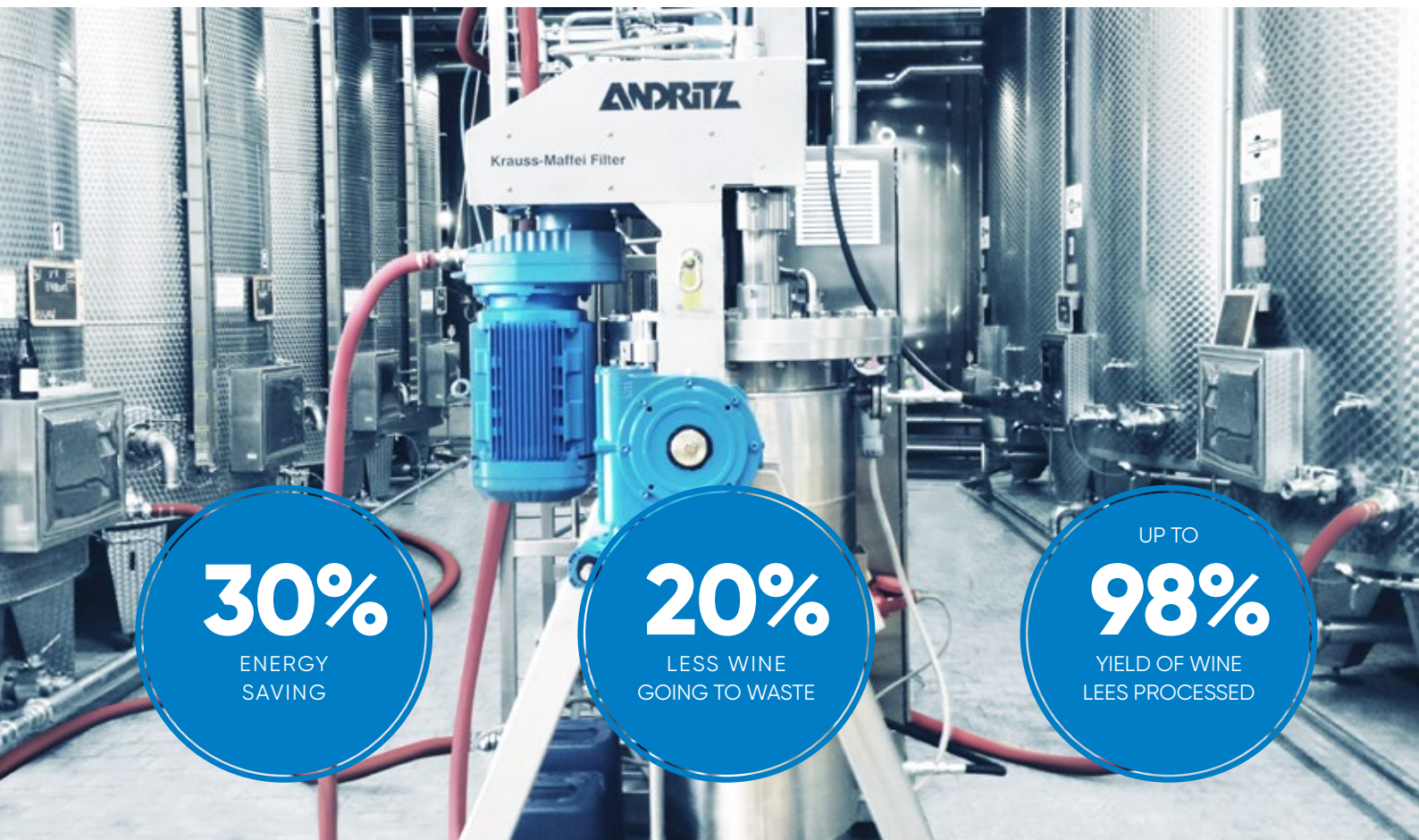
When it comes to clarification of wine, the overall challenge is always the same, regardless of the size of the business: to filter and recover wine profitably, with easy handling and a minimum of maintenance.

Toso S.p.A. is a traditional, family-owned Italian winery producing high-quality wines, sparkling wines, and aromatized wines and spirits, and it was facing exactly this challenge. After relying on a traditional vacuum filter for many years, it was time for a new and more innovative technology.

This technology was to:

- improve yield and reduce production costs,
- minimize the need for filter aids,
- reduce total cost of ownership,
- save space and be flexible to use.

After a careful evaluation, we saw an opportunity to rethink the bigger picture. It was a way to do more in less space that would give Toso a competitive edge for years to come.



DCF skid at Toso S.p.A. production facility

# Our solution

## Direct wine recovery from the lees, making perlite redundant

Rather than focus only on improved equipment, we proposed a new, more efficient approach to wine filtration where direct wine recovery from the lees is possible. The proposed Dynamic Crossflow Filter (DCF), supplied as a plug-and-play unit, not only has a very small footprint, it also eliminates the need for perlite or other filter aids and comes with a very fast return on investment. With its unique design of overlapping, rotating membrane discs, an open filtration area is created that avoids blocking and, therefore, unwanted downtimes. Taking the versatility of Toso's product

portfolio into account, flexibility and multipurpose use to handle must, sparkling wine, and retentate from traditional crossflow or separator sludge were mandatory. The suggested DCF skid was, therefore, a perfect fit as it provides this needed flexibility. Moreover, operation is possible in an isobaric process environment of up to 6 bar, ensuring that sparkling wine, for instance, can be processed without losses of CO<sub>2</sub>. As taste is key in the wine business, the vertical design of the closed and self-venting skid makes sure the taste stays where it belongs.

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# Results

## Higher yield and quality, energy savings, and smaller footprint

Thanks to our collaboration, Toso was able to improve performance well beyond initial expectations. In Cassano Belbo today, Toso is achieving 20% less losses of wine to waste, production has increased by 3,600 hl/year due to direct wine recovery from lees, 30% energy is being saved, no filter aids are needed any more, and downtimes have been reduced to 80 h/year. Not least, the total equipment footprint

is 80% smaller than the vacuum filter used previously, providing more flexibility on the production site. In addition, the housing to handle the retentate was reduced in size by approximately 50% compared to the dimensions required before. All of these are the direct results of our in-depth process know-how, efficient solid/liquid separation solutions, and a uniquely forward-thinking customer.

**“For us, switching to DCF technology was the right decision. We would do it again.”**

**MASSIMO TOSO**  
Owner of Toso S.p.A.



## WHAT'S YOUR SEPARATION CHALLENGE?

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