

Racking

Functional unit: 4 900 l wine ~ 100 ha vineyard

- Piston pumps
- Peristaltic pumps
- Gravity- OVLs

Piston pumps



[8]

These pumps operate by means of a reciprocating displacement of a piston inside the cylinder.

Every movement of the piston displaces the same volume of fluid, which is equivalent to the volume occupied by the piston during its stroke.

These pumps are traditionally used for wine and must racking.

ENVIRONMENTAL ASPECTS

- | | |
|--|--|
| <input checked="" type="checkbox"/> Energy consumption | <input type="checkbox"/> Non-hazardous waste |
| <input type="checkbox"/> Water consumption | <input type="checkbox"/> Hazardous waste |
| <input type="checkbox"/> Resources consumption | <input type="checkbox"/> Wastewater |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Atmospheric emissions |

ECONOMIC STUDY

Functional unit: 4 900 l wine ~ 100 ha vineyard

Initial investment:
5 563.50 €

Annual expenditure:
48.94 €

CRITICAL FACTORS

- | | |
|---|--|
| <input type="checkbox"/> Large investment | <input type="checkbox"/> Organisational changes |
| <input checked="" type="checkbox"/> Improvement potential | <input checked="" type="checkbox"/> Training needs |
| <input type="checkbox"/> Technological changes | <input checked="" type="checkbox"/> Impact on wine quality |

Peristaltic



ENVIRONMENTAL

- | |
|--|
| <input checked="" type="checkbox"/> Energy consumption |
| <input type="checkbox"/> Water consumption |
| <input type="checkbox"/> Resources consumption |
| <input type="checkbox"/> Noise |

ECONOMIC

Functional unit: 4 900 l

Initial investment:
8 863.50 €

CRITICAL

- | |
|--|
| <input type="checkbox"/> Large investment |
| <input type="checkbox"/> Improvement potential |
| <input type="checkbox"/> Technological changes |

Pumps

A peristaltic pump is a type of positive displacement pump used to pump clean or sterile fluids because the pump cannot contaminate the liquid.

These pumps are particularly suitable for very sensitive racking of wines, musts, whole grapes, etc..

It is currently the most widespread technique for racking.

ASPECTS

- Non-hazardous waste
- Hazardous waste
- Wastewater
- Atmospheric emissions

STUDY

wine ~ 100 ha vineyard

Annual expenditure:
56.71 €

FACTORS

- Organisational changes
- ✓ Training needs
- ✓ Impact on wine quality

Gravity (OVIs)



OVIs are milk churn shaped tanks for vinification. They use gravity and avoid the use of pressure pumps that could alter the quality of the wines.

The main disadvantage of this technique is the large investment it needs, since it requires large spaces and the installation of bridge cranes for them to be moved.

They stand out for allowing a very smooth movement of must and wine.

ENVIRONMENTAL ASPECTS

- | | |
|--|--|
| ✓ Energy consumption | <input type="checkbox"/> Non-hazardous waste |
| <input type="checkbox"/> Water consumption | <input type="checkbox"/> Hazardous waste |
| <input type="checkbox"/> Resources consumption | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Atmospheric emissions |

ECONOMIC STUDY

Functional unit: 4 900 l wine~ 100 ha vineyard

Initial investment:
61 855.00 €

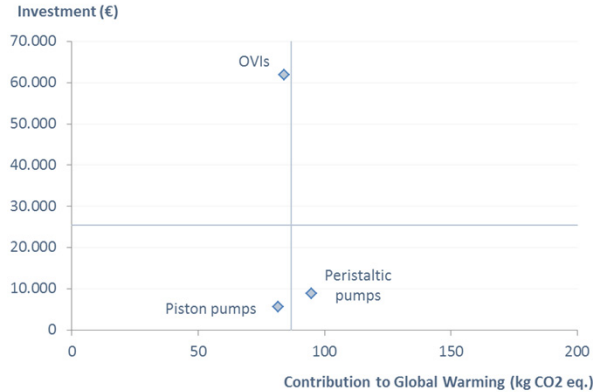
Annual expenditure:
50.22 €

CRITICAL FACTORS

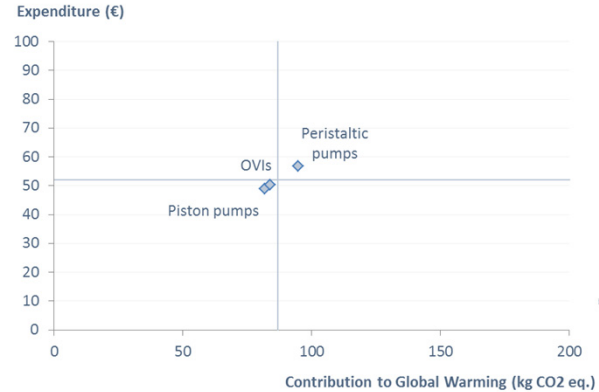
- | | |
|--|--------------------------|
| ✓ Large investment | ✓ Organisational changes |
| <input type="checkbox"/> Improvement potential | ✓ Training needs |
| ✓ Technological changes | ✓ Impact on wine quality |

Economic – Environmental Results

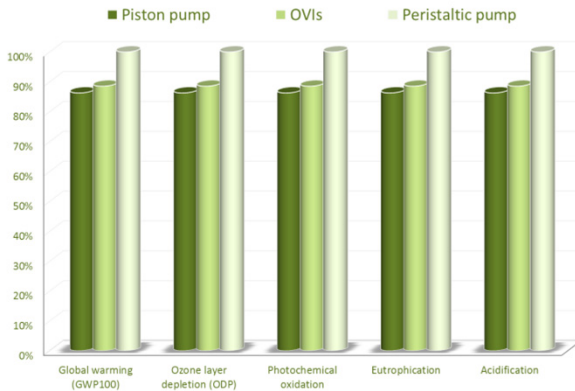
INVESTMENT - ENVIRONMENTAL LOAD



EXPENDITURE - ENVIRONMENTAL LOAD



ENVIRONMENTAL



PRIORITISATION

INVESTMENT - kg CO ₂ eq.	EXPENDITURE - kg CO ₂ eq.	TOTAL	RESULTS
2	3	5	PERISTALTIC PUMPS
2	1	3	GRAVITY - OVIs
1	1	2	PISTON PUMPS

