

Clogging index of wines

Filtration test



With new techniques of filtration on membranes, a filtration test has become indispensable. The clogging index (CI) gives information about the wine filterability. It measures the time of filtration of different volumes of wine at room temperature, and the evolution of this parameter.

2 models :

- 400 ml : for test purpose only
- 5 litres : for test purpose and sample preparation

The determination of clogging index requires a 2 bar pressure on 400 ml of wine filtered on a membrane, Ø25 mm, porosity 0,65 µm.

This filter support disk is mounted under a stainless tank NFA Z2CN1810 with capacity 400 ml, on a stainless steel stand with adjustment system. It is delivered with the following accessories :

- at the top : a set mounted on the lid of the tank with 1 control manometer 0 to 4 Bars, 1 draining valve and connector diam.6 for nitrogen or compressed air connection.
- at the bottom : 1 stainless steel valve 1/4" with 1 removable DIN male connector to install the filter support disc.

Instructions

Use a pair of pliers to put the membrane with porosity 0,65 µm in the filter support disk and place it under the tank. Open the lid and pour the sample into the tank after checking that the valve is closed. Put the lid and connect the tank to a pressure source. Check that the draining valve is closed and open the pressure source. It must be constant and adjusted on 2 bars.

Place a 500 ml graduated cylinder under the filter support disk. Open the valve and start the chronometer at the same time.

Write down the filtration time for the first 100, 200, 300 and 400 millilitres : T1 (100ml), T2 (200 ml), T3 (300 ml), T4 (400 ml). We recommend to direct the flow to the cylinder wall, to avoid the formation of foam and swirl at the liquid surface. The total volume of the sample (400 ml) must be filtered without interruption.

T1, T2, T3 and T4 must be measured in 1/100 of minutes. If measured in seconds, they must be multiplied by 1,66 before the calculation.

The clogging index is : $CI = T4 - 2T2$;

The modified clogging index is : $M. C.I. = (T4 - T3) - (T3 - T2) \times 2$.

If CI < 30, the wine is very filterable and the membranes life will be longer.

If CI > 30, the wine is not very filterable and the membranes life will be short. It is necessary to improve the pretreatment.

Membranes are not supplied with the equipment.

We recommend to use membranes of the same brand as the membranes used for the wine filtration, to control the clogging index with the same quality of material.

Non-contractual picture



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