



APPLICATION ADVICE

ViniFilter™

2B FermControl GmbH · FERMENTATION TECHNOLOGY & OENOLOGY

Protocol for the back washing procedure of ViniFilter™ sheets

Background:

In sheet filtration the total service life of the filter, until the depth filter sheets are completely exhausted, is a really decisive factor. At the end of a filtration cycle with ViniFilter™, it is possible and recommended to backwash, cause that offers the chances for reducing filtration costs.

If backwashing is performed before reaching the maximum permitted differential pressure 2.0 bar for clarifying sheets, 0.7 bar or 1.0 bar, several backwashing cycles of the sheets in the filter are recommended. This considerably enhances the economy of sheet filtration. We have to emphasize, that due to security reasons concerning sterility 2B FermControl urgently advises against backwashing the “end”-sheets immediately before the filling process!

The procedure:

Before starting the backwash the filter package must be slightly expanded. Backwashing should be done at 1 to 1.5 times the filtration rate, which means for

ViniFilter™ 200	→	max. 900 l/h/m ²	→ 144 l/h sheet size 40x40
ViniFilter™ 300	→	max. 1.800 l/h/m ²	→ 288 l/h sheet size 40x40
ViniFilter™ 400	→	max. 2.400 l/h/m ²	→ 384 l/h sheet size 40x40
ViniFilter™ 500	→	max. 2.400 l/h/m ²	→ 384 l/h sheet size 40x40

at a counter pressure of at least 0.5 bar. Remember that when using the ViniFilter™ 200 as an “end”-sheet instead of an 100 type, please avoid any backwash!

A sufficient backwashing effect only will be realized, if the counter pressure is high enough. To improve the washing effect and necessary counter pressure a good diagonal flow of the backwashing water in the filter is basic requirement. This is achieved by throttling the discharge and venting valves on the water outlet side and closing the valves on the water inlet side shortly after starting the backwashing procedure.

The water used for backwashing must not be circulated! To wash beta-glucane, albumen, and any colloids out of the filter sheets, a temperature of between 140 °F (60 °C) and max. 176 °F (80 °C) is ideal. The backwashing water should be heated to 176 °F (80 °C) in three stages after a brief cold water washing cycle. As the depth filter sheets also heat up to 176 °F (80 °C), turbid matter and colloids are washed out. The backwashing process is finished when the water running from all valves after passing through the sheets is clear. Then the filter has to be cooled down again.

You should know, that long backwashing does not guarantee the best regeneration effect. It is well known, that backwashing only with cold water demands very large quantities of water which are in no way in relation to the achieved washing results.

But if the flow rate and necessary counter pressure are chosen with professional care, good regeneration results can often be achieved after only 5 minutes washing with cold water.

A final warm washing we always recommend! In this case a backwashing time of between 15 and 20 minutes has proven sufficient.