

# SINAP

## Flat Sheet Membranes for Advanced Wastewater Treatment



Apex Environmental is pleased to exclusively offer SINAP flat sheet membranes throughout New Zealand, Australia and the Pacific Islands, with the following options:

- Supply of individual membrane sheets – easily retrofitted into most existing brands of flat sheet MBRs
- Supply of complete membrane modules incorporating membranes and stainless steel housings
- Design and build of complete MBR plants
- Modules range in flow capacity from 300 litres per day to 150,000 litres per day.

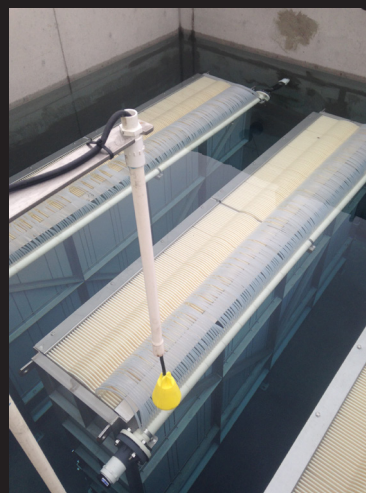
## Membrane Separation Technology

**Advantages of MBR** – membrane bioreactor (MBR) is a highly efficient wastewater treatment technology combining membrane separation and a conventional activated sludge process. The MBR unit removes the need for secondary sedimentation, greatly improving solid-liquid separation and producing effluent of very high quality.

These membranes are suitable for applications ranging from industrial wastewater treatment through to domestic sewage, with treatment being of a standard high enough for reuse. The 0.1 micron nominal pore size of the SINAP membranes is sufficiently fine to remove virtually all bacteria and protozoa from the wastewater.

PVDF construction and asymmetric membrane structure offers excellent permeate flux and quality and improved fouling resistance.

Apex Environmental recommends the use of onsite trials as flow capabilities vary depending on the source and quality of the wastewater. Our mobile pilot plant can be temporarily installed to de-risk projects and offer confidence in the technology working under specific onsite conditions.



*“SINAP sheets have reduced the amount of modules in service....achieved much greater throughput....big saving in sheet usage....in energy cost - stoked!”*

- Barry Mayhill, Wastewater Supervisor, Taupo District Council.

## Case Study

Spring Creek Vintners (SCV) engaged Apex Environmental to design a wastewater treatment system for their Marlborough winery in 2011. The basic settling system with large aeration tank met Marlborough District Council wastewater treatment requirements.

After a very wet 2014 vintage SCV decided they wanted to take treatment to the highest level. Focusing on World's Best Practice, the brief to Apex Environmental was to have a high level of automation, a system with the ability to scale up for vintage water volumes, handle short term heavy rain events and be cost effective to install and run. Their goal was always to develop a world class treatment facility and be leaders in the area of winery wastewater treatment. The very best solution for this project was to install a SINAP Membrane Bioreactor (MBR). The system comprises of 600 SINAP 150 flat sheet membranes with the ability to process 300,000L per 24 hr. day. This is the largest SINAP MBR wastewater treatment plant in use by a New Zealand winery. It has given Spring Creek Vintners more options for either the disposal of wastewater or the ability to reuse the water. It has met all their goals including having a system that is meeting World's Best Practice in waste water management.

SINAP 150-150	BOD5 (g O <sub>2</sub> /m <sup>3</sup> )	Total Suspended Solids (g/m <sup>3</sup> )	Total Nitrogen (g/m <sup>3</sup> )	Faecal Coliforms (MPN/100mL)
Influent	4,100	6,400	230	25,000
Treated Effluent Permeate	7	<3	19.6	<10 <sup>#1</sup> Not detected

*"Installing the Apex MBR is one of the best things we've ever done as a company"*  
John Neylon – Director, Spring Creek Vintners Ltd

Membrane Sheets	SINAP 150	SINAP 80
Effective membrane area (m <sup>2</sup> )	1.5	0.80
Width x height x thickness (mm)	510 x 1800 x 7	490 x 1000 x 7
Typical Productivity (L/day)	600-800	320-480



In today's world we recognise the need to take responsibility for our environment seriously and water is high on the list of priorities. Apex Environmental is driven by a passion to help industry grow sustainably by providing the very best in wastewater treatment.

[www.apexenvironmental.co.nz](http://www.apexenvironmental.co.nz)

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