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# PROTECTING THE CUSTOMER, SAFEGUARDING THE ENVIRONMENT SINAP FLAT SHEET

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Waste is something you want to get rid of, the useless (or possibly harmful) part of a system that has to be removed.

For years, disposal of waste or wastewater resulting from the processes of the various manufacturing operations was not considered a problem by industrial production. The goal was to operate in a way that was compatible with the very nature of an enterprise, the purpose of which is to generate profit. Changes in environmental awareness and ethics associated with Corporate Social Responsibility (CSR), coupled with the tightening of environmental protection regulations, have led to a shift in perspective. We have moved from indifference to this issue to viewing it as one of the main concerns to be taken into consideration.

## ENVIRONMENTALLY SUSTAINABLE OUT OF LOVE OR NECESSITY?

Many pose the problem out of conscience, other perhaps do so purely to avoid sanctions.

Whatever the reason behind the choice, we have decided to **focus on processes and technologies that release enterprises, manufacturers and installers of wastewater treatment systems from the effects of non-compliance with current regulations.**

## IMPORTING EXCLUSIVE SOLUTIONS

We started out as manufacturers and installers of wastewater treatment systems, and after over 15 years of work in the research and development of appropriate solutions for every field of application, we have harnessed our technical expertise and experience gained in the knowledge of the technologies and best equipment needed to optimise results in different sectors. We have also become **exclusive importers of SINAP membranes for Italy, Slovenia and Croatia.**

## GUARANTEEING PROCESS CONTINUITY

Flat sheet membranes enable the design and installation of systems that are

1. more compact in size
2. more efficient during the water treatment cycle
3. more guaranteed, in compliance with legal requirements.

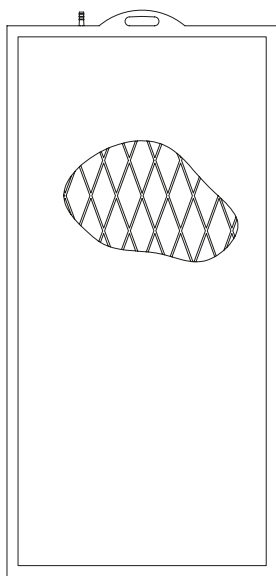
However, if this essential component of the system breaks, is missing or delivered late, there is a problem.

**With our logistics and warehouse we can guarantee continuity of system operation.**

# THE ADVANTAGE OF BEING SIMPLE

# FLAT MEMBRANES

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Front view  
of a flat sheet membrane  
and detail of the inner structure

SINAP flat sheet membranes do not dazzle you with special effects. They just allow you to work safely.

**S** for international and universal **STANDARDS**

**I** for **INTEGRABLE** in any MBR system

**N** for **NORMAL** like the other well-known flat sheet membranes that are widely available on the market

**A** for **ADAPTABLE** to any specific wastewater treatment requirement

**P** for high **PERFORMANCE**

## RESISTANT TO FOULING

Ultrafiltration SINAP flat sheet membranes are made of PVDF, the world's most widely used material for wastewater treatment, thanks to its high mechanical resistance and chemical inertness that make it suitable for use in hydraulic components. They have excellent chemical stability and high resistance to strong acids, oxidants and fouling.

## OPTIMISED FOR WATER/SLUDGE SEPARATION

The arrangement inside the containment modules and the optimised spacing between the elements of the membrane itself

facilitate the outflow of sludge and filtration is possible even with sludge concentrations up to 25-30 grams per litre.

In the lower part of the containment module, the air insufflation system performs cross-flow filtration by means of special diffusers arranged in a fishbone pattern.

The bubbles that are created are mixed completely in the module, providing uniform aeration that prevents sludge build-up and clogging of the filter surfaces.

## EASY TO CLEAN

The elements of the membrane can be easily cleaned in situ using chemical products: sodium hypochlorite for organic deposits or citric acid for inorganic fouling.

Flushing operations can be carried out quickly and are sufficient to restore optimal filtration conditions.

## REDUCED MAINTENANCE COSTS

They are easy to inspect, replace and clean. The cleaning cycle is carried out in situ and keeps maintenance costs low while maintaining permeability in the long term.

# MBR SYSTEMS

## MEMBRANE BIOREACTORS: AN ADVANCED WASTEWATER TREATMENT TECHNOLOGY

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### WATER IS A PRECIOUS RESOURCE

Water is essential for life, health and the economy.

Clean rivers, lakes and seas are important for trade and tourism and they shape the geography and identity of a territory.

Poorly treated wastewater can compromise water quality, causing fish to die or having a direct impact on the quality of water resources.

### TRANSFORMING WASTE INTO A RESOURCE

Membrane Bioreactors (MBR) combine the traditional activated-sludge biological process with the membrane solid-liquid separation process (generally microfiltration or ultrafiltration), where **the effluent is of such quality that it can be used for industrial or irrigation purposes**, even without further treatment, in compliance with Decree-Law 185/2003.

The use of membranes for clarification – an alternative to sedimentation – **also avoids the occasional sludge spill**, a very frequent occurrence in industrial plants which are notoriously prone to problems with filamentous bacteria that can be difficult to settle.

### FLAT SHEET MEMBRANES IN MBR SYSTEMS

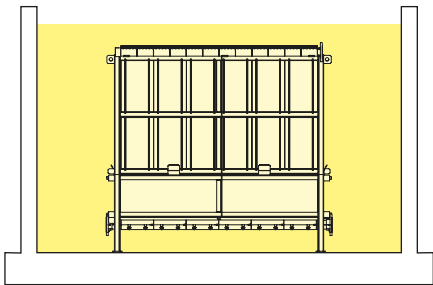
are immersed inside the oxidation tank or in a special compartment, in direct contact with the wastewater.

### EFFICIENCY MAXIMUM PERFORMANCE COST REDUCTION

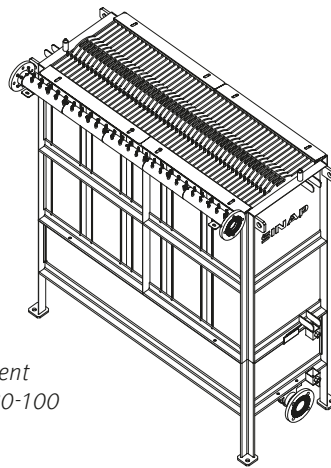
A slight depression is created inside the filter module, by means of a self-priming pump, which forces the treated effluent to pass through the membranes, achieving efficient separation of the suspended solids (trapped on the outer surface of the membranes) from the filtered water (permeate) without further sedimentation and refinement treatments.

Air is blown under each module to stop the biomass from settling on the surface of the membranes and this generates a current of water, biomass and air that prevents clogging.

Optimising the membrane filtration system, in particular increasing the biomass concentration, reduces the energy costs for oxidation.



Flat sheet membranes are in direct contact with liquid effluent



SINAP containment module 80-100

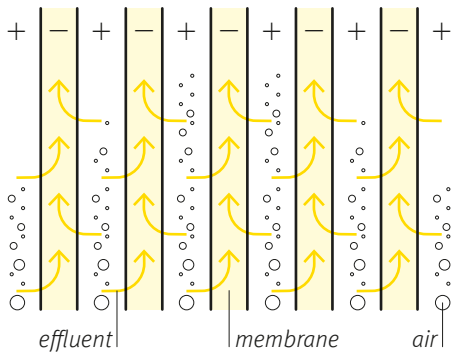
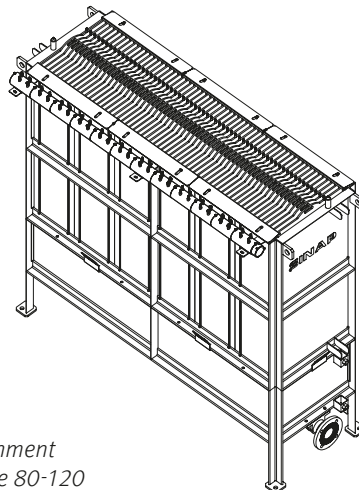


Diagram of the flat sheet membrane filtration system



SINAP containment module 80-120



# SERVICES

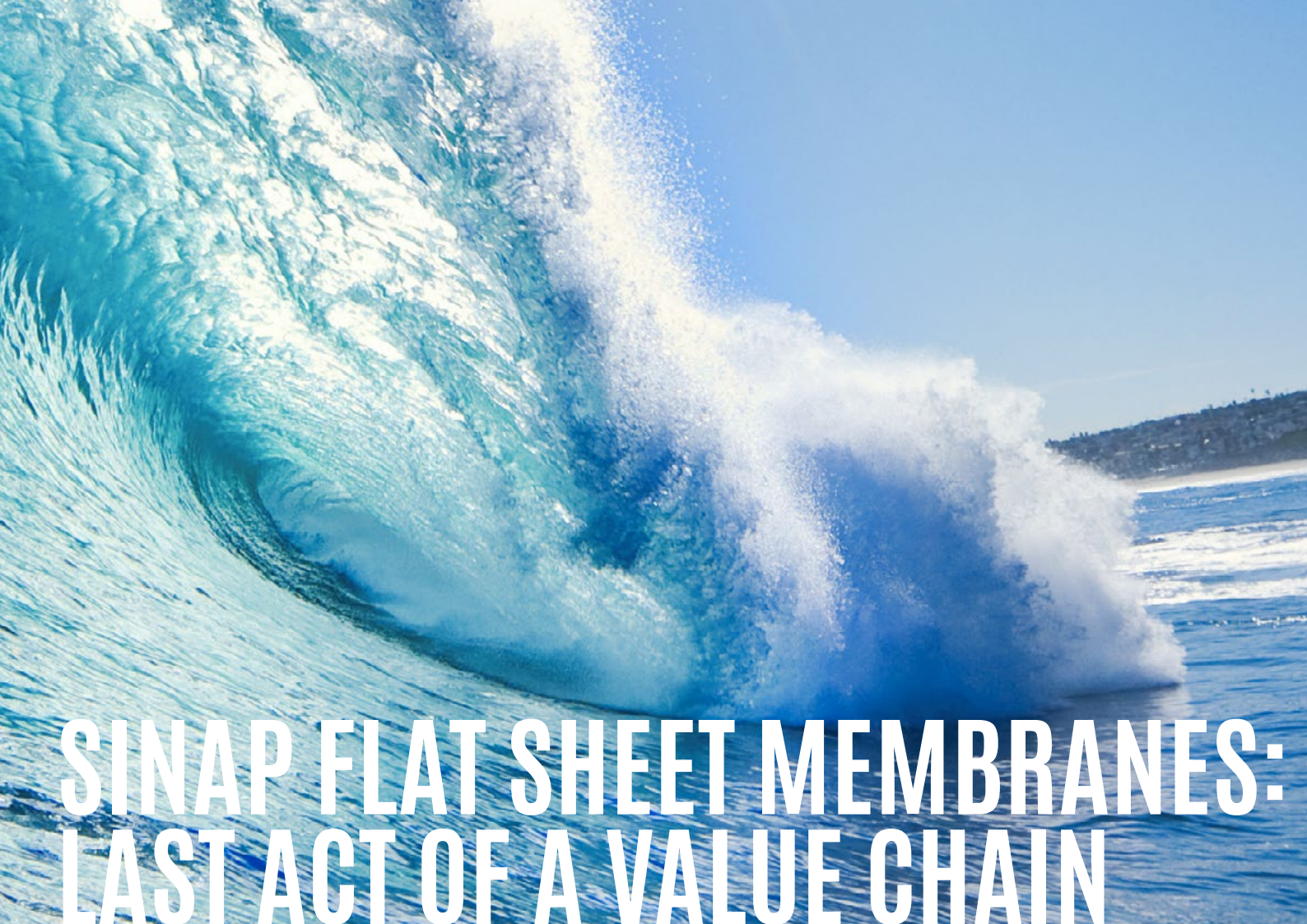


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*«Water is a basic right for all human beings;  
without water there is no future.  
Access to water is a common goal.  
It is central in the social, economic and  
political affairs of the country, continent and  
the world.  
Water is democracy.».*

[Nelson Mandela]





# SINAP FLAT SHEET MEMBRANES: LAST ACT OF A VALUE CHAIN

## OUR RAISON D'ÊTRE ...

The 2030 Agenda for Sustainable Development, adopted in 2015 by the United Nations, contains 17 goals, two of which are strictly connected to **the quality of water resources**.

1. Ensure availability and sustainable management of water and sanitation for all.
2. Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

These goals are the legacy that we will leave future generations: our children, grandchildren and great grandchildren.

We are a family company and, for us, contributing to the betterment of the world in the areas of food, water and the environment means ensuring that future scenarios are prosperous, peaceful and filled with promise.

## .... TRANSFORMED INTO VALUE FOR CUSTOMERS

Our mission is to provide customers with the best services in the sector of environmental protection using both

- preventive actions aimed at the proper management of the wastewater treatment cycle
- as well as corrective actions aimed at remedying existing or potential polluting situations.

## EXPLORERS OF APPROPRIATE SOLUTIONS

As a manufacturer of wastewater treatment systems, where we provide a high level of quality, technologies and logistical support, we are constantly researching and developing the best solutions for each specific case.

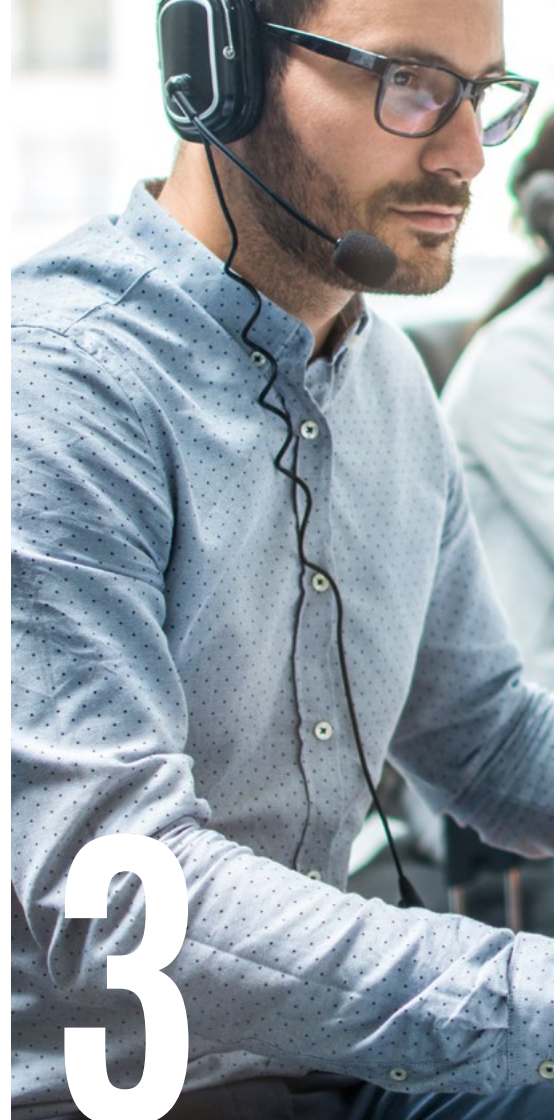
Every response requires a sacrifice because we first need to understand the case and dissect it, then have the awareness to grasp the critical aspects and identify the critical areas to work on to solve the problem.

We are specialised in wastewater and we have researched the many advantages that MBR Systems (with SINAP flat sheet membranes) offer customers.

## WHY HAVE WE CHOSEN TO BECOME EXCLUSIVE IMPORTERS OF SINAP MEMBRANES?

We arrived at this choice after having encountered a series of obstacles that would crop up in the implementation or normal operation of a system; to overcome these drawbacks, in addition to importing and selling SINAP membranes, we have developed a range of services that resolve many critical situations.





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## STOCK AVAILABILITY: NEVER BE WITHOUT AGAIN

We guarantee the sale and distribution of SI-NAP membranes, but what is most important is that we have a warehouse with always enough stock to supply customers with the essential parts they need to keep the system operating.

## DELIVERY GUARANTEED WITHIN 7 DAYS

A speedy and convenient service makes all the difference. We are equipped to

- deliver within 7 business days anywhere in Italy
- by express courier
- the most frequently used standard-sized membranes.

This helps companies that are installing, maintaining and building the system at peak times, when the end customer is ramping up production schedules.

## SPEEDY ADVICE

Our help desk is ready to assist system designers and installers, providing technical advice on the optimal size of membrane surface area to install. There is no ticket system. Call us on our special line and you will always get through to someone. A skilled technician will respond to you via phone or email.





# 4

## 2 YEARS OF 100% WARRANTY

What do you expect from a good product? Durability. Confident in the quality, we give

- 100% warranty for 2 years
- 50% warranty for the 3rd year

provided that the membranes have been installed correctly and used in accordance with the technical specifications given in the user manual.

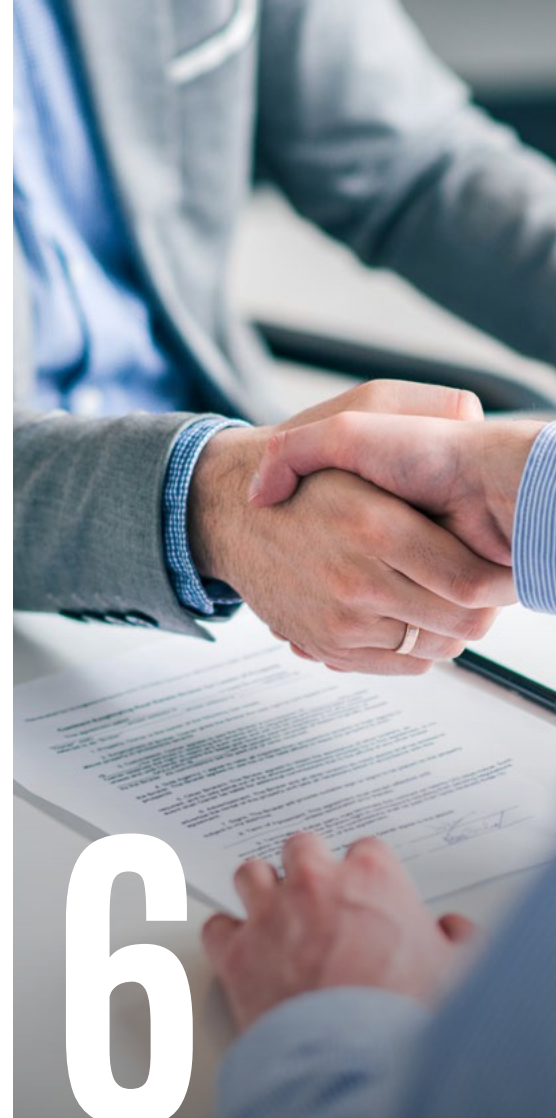
*(\*) For specific evaluations (and related fee to be agreed upon), we offer guarantees with broader coverage.*



# 5

## PILOT SYSTEMS

**Trying is believing.** You experience the advantages of SINAP flat sheet membranes when you try them. We provide (at the customer's premises where necessary) a **Pilot System service for industrial testing**, so that you can see how efficient the treatment is.



# 6

## CONFIDENTIALITY AND RESPECT FOR THE END CUSTOMER

We give you our assurance that we will not address your customer directly, guaranteeing

1. the creation of a blacklist of people we will not contact, even if you give us the name of your end customer;
2. confidentiality and respect for the end customer's privacy.



# SECTORS

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## MBR TECHNOLOGY: DUCTILE AND VERSATILE

In a wastewater treatment system with MBR (Membrane Bioreactor) technology, biomass is separated from the treated water by mechanical filtration with semi-permeable membranes and not by gravity, as in traditional systems.

The only concern regarding MBRs is the flux on the membrane, expressed as l/m<sup>2</sup>/h. This requires a careful study of the work programme, so that the load peaks can be evened out with a lung tank.

The system can be applied in many different industrial sectors, that need wastewater treatment.

## ULTRAFILTRATION MEMBRANES: TREAT AND REUSE

By combining ultrafiltration membrane technology and the biological treatment in MBR (Membrane Bioreactor) systems, it is possible to achieve high output in wastewater treatment, which is particularly convenient for effluents with a high organic content, resulting in

- treated water, that is constantly free of microorganisms and suspended matter
- ideal for reuse in agriculture
- complies with the limits imposed by current European laws.

The use of membranes increases the biomass concentration in the bioreactor (from 4-5 to 15-20 g/l) and consequently the treatment capacity expressed in Kg/COD/day per cubic metre of reactor.

## FLAT SHEET MEMBRANES AT THE HEART OF THE MBR PROCESS

SINAP membranes are crucial elements in MBR systems.

Using unsuitable or incorrectly sized membranes on the surface of the filter elements leads to a blockage of the system, which will quickly stop discharging.





## FLAT SHEET MEMBRANES: PREVENTION IS BETTER

Filtration using a SINAP membrane guarantees absolute control over the sustainability of the wastewater treatment process.

Even at times of maximum productivity, instead of straining the system all you need to do is intervene at the right time with maintenance, cleaning (or, if necessary, replacement) of the membrane to avoid spilling pollutants into the environment and to comply with current regulations.

## VERSATILE IN MANY SECTORS

Each sector has its own specific needs which require appropriate solutions in order to

- optimise the system's operation
- avoid interruptions to the treatment process
- guarantee the durability of the membranes
- and keep them in good condition.

## EFFICIENT AND HIGH PERFORMING

In many cases, when SINAP membranes are used to clarify the effluent, there is no need to ensure gravity separation of sludge from the treated water, but **only the filterability of the membrane** itself.

The quality of ultra-filtrated water, which is free of suspended matter, is much better than the water obtained with conventional sedimentation and, in most cases, can be reused for factory washing, cooling cycles and irrigation.

## SUITABLE FOR HAZARDOUS TASKS

The application of SINAP flat sheet membranes also yields results in highly critical and hazardous treatment processes, such as those involving biogas digestate and landfill leachate, which require high process standards, suitable technology and components with certified quality.

## ADVANCED AND DUCTILE

The SINAP membrane technology is more advanced than that used in traditional wastewater treatment

- in addition to ensuring compliance with the current regulations with a greater margin of safety
- **it allows us to operate in extremely confined spaces, adopting new concepts and truly original projects.**

We guarantee constant supply of SINAP membranes for the following fields of application

- THIRD-PARTY PLANTS
- MEAT PROCESSING, SALAMI FACTORIES, ABATTOIRS
- WINERIES, DISTILLERIES AND WINE-GROWERS
- COMMUNITY CENTRES, HOTELS, RESTAURANTS
- FOOD INDUSTRIES, DAIRIES
- LAUNDRIES AND DRY CLEANERS
- BIOGAS DIGESTATE AND LANDFILL LEACHATE
- VEHICLE AND TANK WASHING



# CONTACT INFORMATION

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*«If you come to Venice, remember that there is not just the city, there is also the lagoon. And when you visit any city, any other place that stands in the middle of a landscape, notice what lies around it. Because things do not exist by chance. Because there is always something else around – a lagoon, a forest, a valley, a plain – that protects a multitude of creatures, there is always a planet nobody cares about that may get very hurt and angry.»*

[Tiziano Scarpa, Laguna la preziosa]

## THE PLANET NOBODY CARES ABOUT

We are based in the Venice area. In 1678, the Most Serene Republic of Venice established the Magistrato alle Acque (magistrate for the waters) to oversee and manage the water system in the Venetian lagoon. It was clear even then that maintaining the lagoon waters would guarantee the survival of the city and its socio-economic system. Perhaps that is why **wastewater treatment is so important to us.**

## SINAP FLAT SHEET MEMBRANES

Exclusive importer for  
Italy, Slovenia and Croatia

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