



Aspiral™ is a smart packaged wastewater treatment solution based on the Membrane Aerated Biofilm Reactor (MABR) technology. Aspiral™ is a suitable solution for small- to medium- sized treatment plants with a capacity of 5-2,000 m³/day (1,300-530,000 GPD) ideal for decentralized treatment.

Smart Packaged Wastewater Treatment Solutions

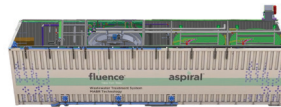
aspiral™ Micro



aspiral™ S



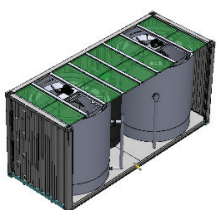
aspiral™ M



aspiral™ L

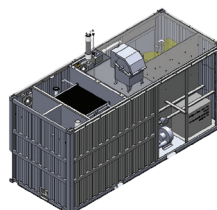


Aspiral™ Micro	Aspiral™ S	Aspiral™ M	Aspiral™ L
Maximum Capacity			
5 m ³ /day (1,300 GPD)	50 m ³ /day (13,000 GPD)	120 m ³ /day (32,000 GPD)	300 m ³ /day (80,000 GPD)
# of MABR Modules			
1 (modified)	1	1-2	1-5
Dimensions			
2.2m (7.2 ft) diameter	20 ft container	40 ft container	40 ft container
Secondary Clarifier			
Integrated	Integrated	Integrated	External
Tertiary Treatment			
-	External	Integrated (Optional)	External



Packaged Secondary Clarifier

Optional secondary clarifier for Aspiral L

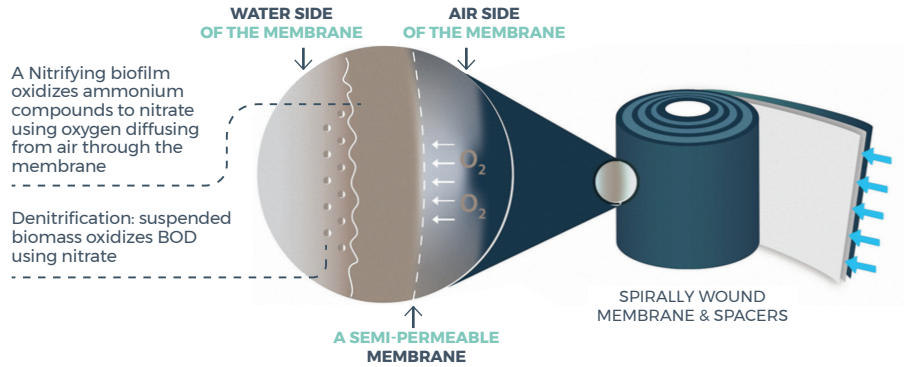


Packaged MBR

Optional tertiary treatment for Aspiral L

MABR Technology

The MABR unique biological process enables simultaneous BOD, TN and TP removal, all in a single pass supported by highly efficient passive aeration which results in up to 90% less energy required for aeration.



Efficient Biological Treatment

The Aspiral™ plants achieve high removal rates resulting in very high effluent quality.

The Aspiral™ systems can easily be designed to allow even higher effluent quality if required.

Pollutant	Typical Influent	Typical Effluent	Removal
Ammonia (NH ₄ N)	45 mg/L	<3 mg/L	>93%
Total Nitrogen (TN)	55 mg/L	<5 mg/L	>90%
Total Phosphorous (TP)	10 mg/L	<1 mg/L	>90%
Total Suspended Solids (TSS)	350 mg/L	<25 mg/L	>93%
Biological Oxygen Demand (BOD ₅)	300 mg/L	<10 mg/L	>96%
Chemical Oxygen Demand (COD)	600 mg/L	<70 mg/L	>88%

Aspiral energy consumption: 0.25 kWh/m³ (0.95 kWh/kgal)
Equivalent to <90% less energy for aeration compared to conventional technologies



Fully equipped and checked for fast installation and start-up



Remote monitoring and operation for system optimization



Durable membrane materials with a life expectancy of over 20 years

Proven Track Record

Fluence MABR plants have been successfully deployed around the world with hundreds of Aspiral systems installed.

All installations have reliably and consistently delivered high effluent quality with low energy consumption and rapid deployment.

