

## Features

## Benefits

Large Tank	→	Longer retention time = Better treatment
One Pour Mould	→	No leaking internal walls= No cross contamination
Multiple Baffles/Chambers	→	Longer retention time - reduction of fats, oils & grease (FOG)
Multiple Inverts	→	Saves \$\$\$\$ and Reduces need for riser rings
Ultrafiltration Membranes 35 nano metres (35millionths of a millimetre) - Physical Barrier	→	<b>Protects the family</b> - Smaller pore size than bacteria and some viruses
Very Low Total Suspended Solids	→	Better for effective UV disinfection and re use applications
Very Low Total Phosphorus	→	<b>Protects environment</b> and reduces Land Application Area by approx. 75%
Very Low Total Nitrogen	→	<b>Protects environment</b> and reduces Land Application Area by approx. 30%
Very Low Turbidity 0.43NTU (clarity)	→	Better for effective UV disinfection and re-use applications Town water turbidity = 4NTU
UV Light	→	<b>Protects the family</b> - Kills Viruses *chlorine at the rates allowed DOES NOT kill viruses
Water Quality NOT dependent on Biology	→	<b>Protects the family</b> - Physical Barrier - chlorine loses effectiveness when pH and SS are incorrect
Flow Related	→	Working level float operates Blower and Filtrate pump - corrects biology and reduces running costs
System is Adjustable	→	Can be easily adjusted for varying loads/family sizes
Membrane has a proven life of over 10 years	→	Martin Systems in Germany - Si Claro Membrane Filter Module is nearly 11 years old and still in the field
Membranes Thermal Welded	→	Not Solvent (GLUED) which break down in the biology - biodegradable - Very Strong and Robust
Two Manifolds in Membrane Pack	→	Even suction over whole of membrane sheet - longer life - better performance
Constant Plate Separation in Membrane	→	Most effective for air scouring
Stainless Steel Frame Housing Membrane	→	Long lasting - Durable
Custom Made EPDM (rubber) Diffusers for Air	→	Controlled air bubble size to have most effective air scouring
Nitto Piston Blower (Air Pump)	→	Quiet, long lasting, no diaphragms that need to be replaces every 18 months
Sealed Irrigation Chamber in Tank 	→	Guaranteed water quality

### Extra facts about our Domestic Membrane System:

- The ultra-filtration membrane is a physical barrier separating solid particles from liquid. The defined pore diameter of the membrane is only thirty-five millionths of a millimeter (0.000035mm). The ultra-filtrating membrane is an absolute barrier for suspended solids, bacteria & large virus. The smallest molecules, metallic ions and dissolvable salts essential for life can pass the ultra-filtration membranes unhindered.
- We use flat sheet membranes derived from organic polymers that are very effective, these are combined with the unique filter module construction which prevents clogging due to hairs, fibres or other coarse substances.
- Nutrient Removal is important to the environment as excess nutrients will alter soil characteristics unfavorably and cause algal blooms in water. The Magnesium DMS reduces nitrogen & phosphorus level to well below the Australian Standards ensuring the safety of your family and minimizes pollution of our waterways and environment.

#### STATE APPROVAL NUMBERS - Magnesium Domestic Membrane

Queensland	25/2015	South Australia	WWP-58/15
New South Wales	AWTS 029	Western Australia	F-AA-36501
Victoria	n/a	Tasmania	n/a
Northern Territory	n/a		

# The Ultimate Environmental Solution

## Magnesium DMS Domestic Membrane System

An Advanced Secondary Home Sewage Treatment Plant  
with Nutrient Removal

### The Magnesium DMS produces the cleanest water from a domestic treatment system in Australia today

Our Domestic Membrane System (DMS) can be used in environmentally sensitive areas. This system allows reduced set-back distances for small blocks, or blocks with natural watercourses &/or neighbors in close proximity. This system has 2 forms of disinfection (Membrane Filtration and UV Light) neither of which leave any chemical residue.

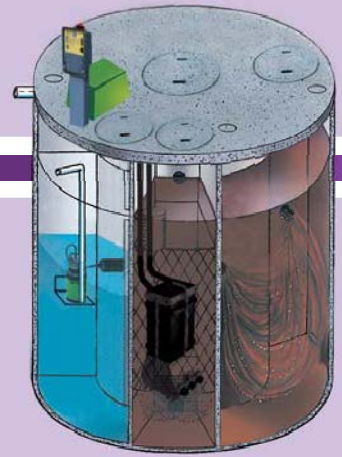
### ★★★★★ Clearly the Winner! The 5 Star Process

**Step 1:** All waste from the home enters the primary pre-treatment chamber of the Magnesium System with liquid then flowing into the secondary chamber. The time that waste spends in both these anaerobic chambers allows bacterial action to condition it before it flows into the aeration chamber.

**Step 2:** In the aeration chamber an air blower introduces oxygen into the liquid creating an aerobic process where bacteria grow and digest solid waste. At intervals governed by the water flow the liquid will be pumped through the ultra-filtration membranes to the irrigation chamber.

**Step 3:** Biological nutrient removal is achieved by recirculating liquid between the aerobic membrane chamber and a de-nitrification chamber. Phosphorus removal is achieved by withholding all sludge.

**Step 4:** The liquid that has entered the irrigation chamber is constantly recycled through a continuous disinfection process using ultra-violet light and then recycled back to the environment via spray or underground irrigation. The ultra-filtration membrane is the primary disinfection process.



Low nutrient,  
absolutely clear,  
odorless,  
recycled water  
for irrigation

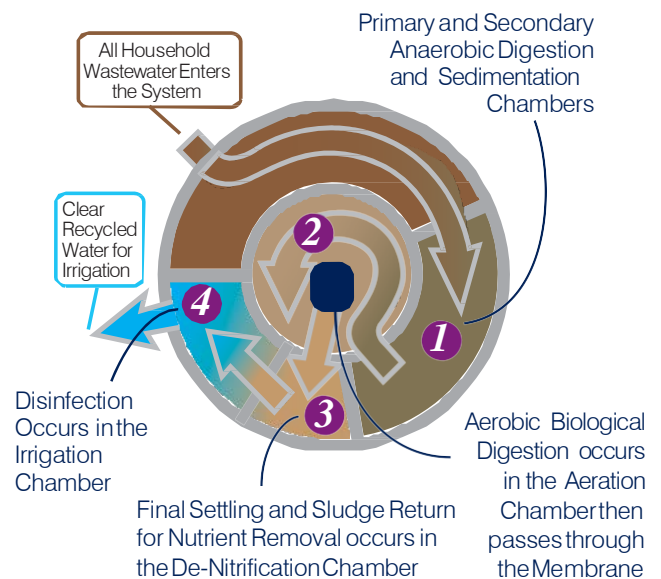
#### Tank Construction – All Concrete Vessel

Height	2300mm
Inlet Invert (from Base)	1830mm or 1530mm
Tank Diameter	2450mm
Maximum Dry Weight	6.25 tonnes

Maximum Hydraulic Loading	1,500Lt/day - 10 Person
Operating Capacity	5,870Lt
Total Tank Capacity	8,100Lt

#### Australian Standards & Test Results

Effluent Grade	Advanced Secondary + Nutrient Removal	
	Australian Standard	DMS
<b>BOD5</b> <small>Biological Oxygen Demand Over 5 Days</small>	<10 mg/L	<4.8mg/L
<b>TSS</b> <small>Total Suspended Solids</small>	<10 mg/L	<1.27mg/L
<b>Thermotolerant Coliforms</b>	<10/100mL	<0.03/100mL
<b>Nitrogen</b>	<10mg/L	<6.19mg/L
<b>Phosphorus g/m3</b>	<5mg/L	<0.29mg/L
<b>Turbidity</b> <small>Clarity</small>	n/a	0.43NTU



15 Year Tank Warranty Includes Internal Compartment Walls... Plus  
2 Years Electrical Components Warranty