

# HydroSave™

*your future in water conservation & preservation*



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## Why Save Our Water?

Rain Water is a free natural resource. In recent years, many parts of Australia have experienced dramatic water shortage.

With the growing demand for water and the cost of meeting strict drinking water standards, water has become a very expensive and scarce commodity.

Governments and Councils are demanding that new developments include a water retention system whether it be a large industrial/commercial site or a single dwelling. **HydroSave** products can provide a most suitable and advanced water retention system to maintain these requirements, being specifically designed to meet any size for any application.

Natural rainwater harvested using a HydroSave system will provide clean and soft water. Heating, cooling and plumbing equipment will require much less anti-scaling and treatment.

The **HydroSave** water retention system is based around a filament wound glass reinforced plastic underground storage tank. Rainwater is collected from roof areas or hardstandings and diverted through a filter chamber into the underground storage tank. The filter unit separates leaves and debris.

Australia is facing a major dilemma in relation to water storage. It is our responsibility to preserve this most precious resource by using Australia's most innovative water retention system. Reap the savings from harvesting rainwater with the high quality products **HydroSave** has on offer.

**HydroSave** ™





## Advantages

- **HydroSave's** range of underground tanks are manufactured with reference to BS4994 structural design, which is a world class standard for FRP, ensuring strength and stability.
- In the manufacturing process of these tanks we combine the high hoop strength produced by filament winding and the multi-directional strength of chopped strand laminate, resulting in a highly robust and functional product.
- The smooth moulded, resin-rich coated inner surface applied in the tank manufacturing inhibits any corrosion and bacterial growth.
- The tanks are constructed with strong reinforcement ribs to take any external impact and forces within the ground.
- Vessels can be modified to meet any inlet/outlet or pipe work requirement.
- These tanks are maintenance free- no need for periodic testing, recoating etc.
- Our tanks do not rust or corrode.
- FRP is extremely light weight and durable, catering for easy handling.
- Large capacity tanks can be manufactured at the plant- no need for on-site production like concrete (Tanks are manufactured with capacities of up to 170KL at the plant)
- Materials used throughout the manufacturing process are quality assured and professionally selected to best suit the intended service requirements.
- **HydroSave** personnel will work with your Geo-Technical engineers to ensure all aspects of the tank's installation and operation run smoothly.
- Our designs are verified by renowned FRP engineers and design calculations can be supplied in support of any of our products as required.
- Careful selection and the use of many standards combine to ensure our products are of the highest quality i.e. AS/NZS2566 for backfill design and ASTM D2563 is used to ensure quality throughout manufacture.
- **HydroSave's** range of underground water retention tanks are manufactured using world class technology and professional material selection, making them the long life product all customers require. The life expectancy of these tanks is in excess of 50 years.
- At **HydroSave** we have a full range of accessories, supplying customers all over the country with complete and innovative water retention systems.
- Aesthetics – No ugly tanks above the ground.
- All products are underground, meaning no wastage of Valuable land etc.

# APPLICATIONS

## *Industrial/Commercial Sites*

- Large Industrial Estates
- Office Complexes.
- Manufacturing Plants.
- Medical/Government Complexes.
- Industrial Sheds.
- Horticulture
- Hard Standings.

## *Residential Dwellings*

- Town Houses.
- High Rise Apartments.
- Housing Estates.
- Hotels/Motels
- Single Dwellings.

## *Utilities/recreation*

- Schools.
- Shopping Centres.
- Conference Centres.
- Sporting Complexes/Stadiums.
- Auditoriums.
- Churches.
- Theatres.
- Park Lands









# MODELS AND SIZES

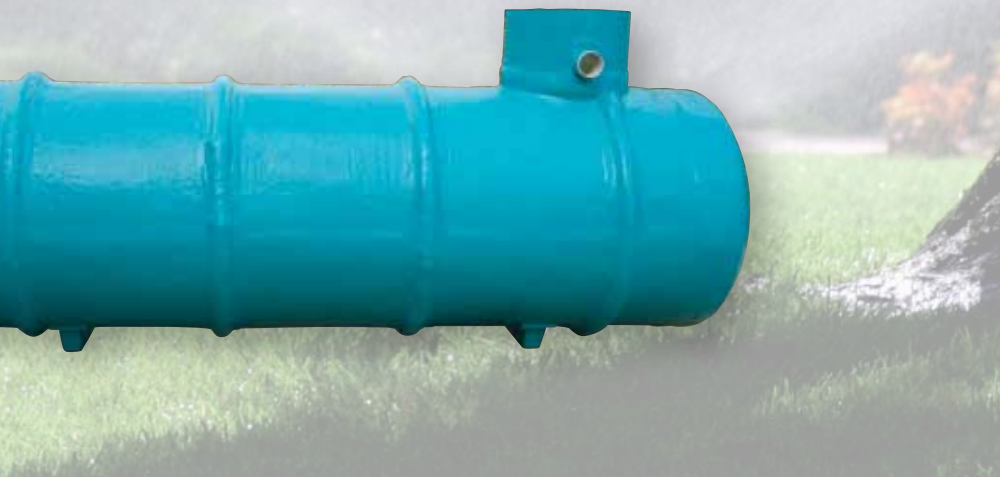
*Series	120 Series ~ ID: 1200mm		150 Series ~ ID: 1500mm		180 Series ~ ID: 1850mm		200 Series
Capacity (L)	Model No.	Length	Model No.	Length	Model No.	Length	Model No.
5000	UG120/5	5360mm	UG150/5	3570mm	UG180/5	2560mm	UG200/5
10000	UG120/10	10225mm	UG150/10	6680mm	UG180/10	4610mm	UG200/10
15000	UG120/15	15090mm	UG150/15	9790mm	UG180/15	6660mm	UG200/15
20000	UG120/20	19950mm	UG150/20	12900mm	UG180/20	8710mm	UG200/20
25000			UG150/25	16015mm	UG180/25	10760mm	UG200/25
30000			UG150/30	19130mm	UG180/30	12810mm	UG200/30
35000					UG180/35	14860mm	UG200/35
40000					UG180/40	16910mm	UG200/40
45000					UG180/45	18960mm	UG200/45
50000					UG180/50	21016mm	UG200/50
55000							UG200/55
60000							UG200/60
65000							UG200/65
70000							UG200/70
75000							UG200/75
80000							UG200/80
85000							UG200/85
90000							UG200/90
95000							UG200/95
100000							UG200/100
105000							UG200/105
110000							UG200/110
115000							UG200/115
120000							UG200/120
125000							UG200/125
130000							UG200/130
135000							UG200/135
140000							UG200/140
145000							UG200/145
150000							UG200/150
155000							UG200/155
160000							UG200/160
165000							UG200/165
170000							UG200/170
175000							UG200/175
180000							UG200/180



\*Other sizes available upon request

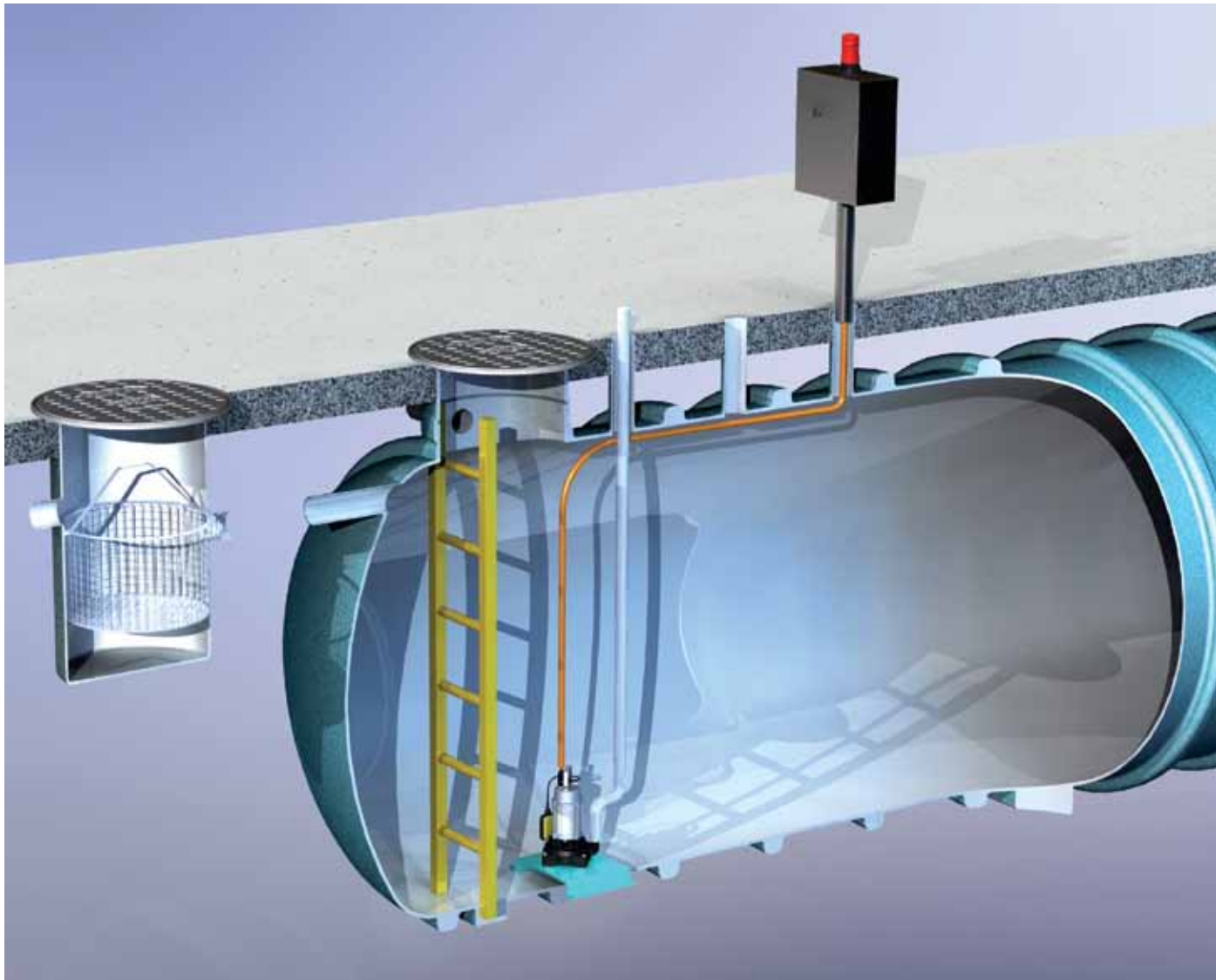


~ ID: 2000mm		250 Series ~ ID: 2480mm		300 Series ~ ID: 3000mm		350 Series ~ ID: 3500mm	
No.	Length	Model No.	Length	Model No.	Length	Model No.	Length
00/5	2520mm						
0/10	4270mm	UG250/10	3100mm				
0/15	6020mm	UG250/15	4250mm	UG300/15	3200mm		
0/20	7770mm	UG250/20	5400mm	UG300/20	3980mm		
0/25	9520mm	UG250/25	6550mm	UG300/25	4760mm	UG350/25	4000mm
0/30	11270mm	UG250/30	7700mm	UG300/30	5540mm	UG350/30	4520mm
0/35	13020mm	UG250/35	8850mm	UG300/35	6320mm	UG350/35	5040mm
0/40	14770mm	UG250/40	10000mm	UG300/40	7100mm	UG350/40	5560mm
0/45	16520mm	UG250/45	11150mm	UG300/45	7880mm	UG350/45	6080mm
0/50	18270mm	UG250/50	12300mm	UG300/50	8660mm	UG350/50	6600mm
0/55	20020mm	UG250/55	13450mm	UG300/55	9440mm	UG350/55	7120mm
		UG250/60	14600mm	UG300/60	10220mm	UG350/60	7640mm
		UG250/65	15750mm	UG300/65	11000mm	UG350/65	8160mm
		UG250/70	16900mm	UG300/70	11780mm	UG350/70	8680mm
		UG250/75	18050mm	UG300/75	12560mm	UG350/75	9200mm
		UG250/80	19200mm	UG300/80	13340mm	UG350/80	9720mm
		UG250/85	20350mm	UG300/85	14120mm	UG350/85	10240mm
				UG300/90	14900mm	UG350/90	10760mm
				UG300/95	15680mm	UG350/95	11280mm
				UG300/100	16460mm	UG350/100	11800mm
				UG300/105	17240mm	UG350/105	12320mm
				UG300/110	18020mm	UG350/110	12840mm
				UG300/115	18800mm	UG350/115	13360mm
				UG300/120	19580mm	UG350/120	13880mm
						UG350/125	14400mm
						UG350/130	14920mm
						UG350/135	15440mm
						UG350/140	15960mm
						UG350/145	16480mm
						UG350/150	17000mm
						UG350/155	17520mm
						UG350/160	18040mm
						UG350/165	18560mm
						UG350/170	19080mm
						UG350/175	19600mm
						UG350/180	20120mm





# ACCESSORIES



← **Pumps** - both above ground and submersible pump models available for the pumping of harvested water to any designated area.

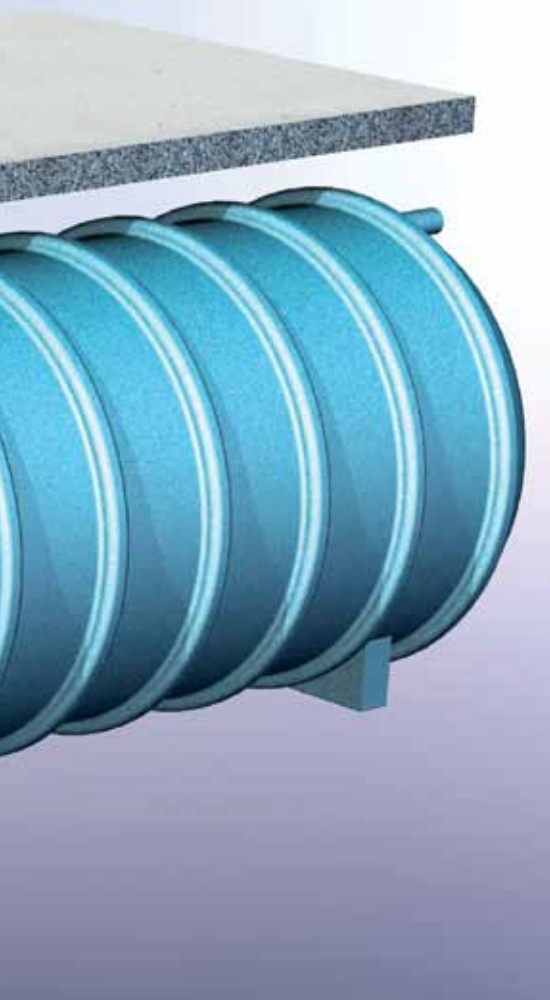




← **Manhole Access Covers** - can be supplied in cast iron, fiberglass and many other sizes and options.

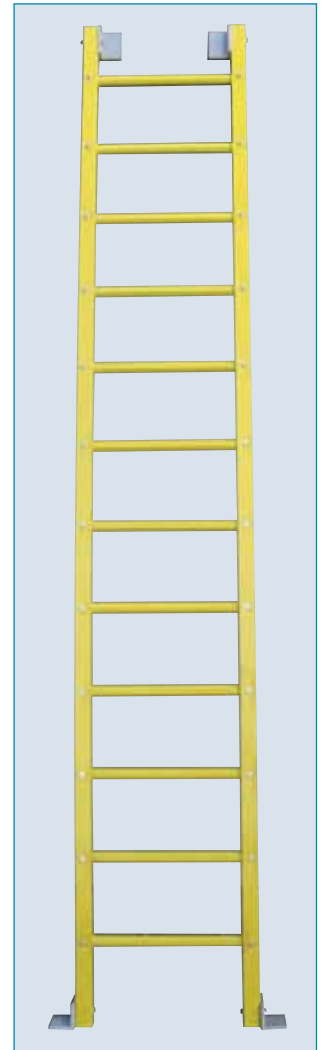


← **Flanged Fittings** - can be used to bolt flanged pipe work to tank (25mm – 600mm diameter).



← **Manhole Extensions** - these can be manufactured to meet any size, shape or height requirement.  
(Example in photograph suited to a round 600mm diameter manhole)

**Internal Ladders** → used only when tank is empty to service tank or pumps etc.



← **Electrical Control Box** - can be designed and supplied to suit many requirements.



← **Trash Filter** - trash filters are plumbed into the inlet of the tank to prevent leaves and debris etc to flow into the tank. Inside is a stainless steel removable basket that traps debris for removal.

# Compare the difference

<b>HydroSave</b> FRP RETENTION SYSTEMS	CONCRETE RETENTION SYSTEMS
Horizontal units – Ease of installation. With minimum depth excavation, suitable for high water table & rock areas.	Vertical units – greater depth and higher cost for installation – unsuitable for high water table areas.
Tanks can be modified to meet any inlet/ outlet or customised pipe requirement and capacity size.	Very rigid and fixed design.
Single, leak-proof, light & durable Retention tank – Ease of installation.	Greater labour cost in installation and assembly on site.
Tank outer layer is resistant to water and chemical penetration.	Porous.
Inside corrosion barrier prevents any corrosion or bacterial growth.	No real prevention to bacterial growth and corrosion.

The underground retention tanks are designed using BS4994 FRP Pressure vessel code to ensure the construction meets the necessary strength and stability requirements. The design incorporates ground pressure from the cover over the tank but also from the reaction of the selected backfill and native soil conditions based on AS/NZS2566.

Design guidance is also derived from the AWWA C120-02 and AWWA M45 procedures where they relate to buried tanks.

The designs can be verified against a wide range of ground conditions including surcharge loads and live loads as well as variations in the water table on site.

The standard tank is designed to accept ground conditions with low stiffness down to 4.8MPa, tanks can be supplied for lower quality installation conditions on an as required basis. Water tables are set to ground level to represent worse case conditions with a minimum depth of cover of 1.5x diameter, based on a nominal ground load of 18800N/m<sup>3</sup>. Maximum burial depth based on specific site conditions are available on request. Where complex installation conditions occur Gebel can work with your Geotechnical engineers to ensure all aspects of the tank's installation and operation go smoothly. Gebel recommend the use of a suitably designed concrete

slab to mitigate live loads ie traffic, however where this is not practicable the tank may be enhanced based on the client's requirements.

Materials are Quality Assured and selected to best suit the intended service requirements depending on the tank contents. Potable water, hydrocarbons, acids and bases can be accommodated through the selection of the most appropriate materials.

Our designs are verified by independent design engineers and design calculations can be supplied in support of any of our vessels as required. Manufacturing is carefully controlled and each stage of construction is inspected in accordance with ASTM D2563.

Long term performance of the tanks are important and the anticipated service conditions are taken into account during the design process and take into account manufacturing techniques, temperature, chemical conditions and fatigue. As an example a rain water retention tank may start with a safety factor as low as 6 or 8 where as a chemical tank may be in the order of 12 or higher.



Call HydroSave today  
to speak to one of our  
helpful personnel and  
discover the perfect  
way for you to help  
**PRESERVE** and  
**CONSERVE** Australia's  
precious resource...  
**RAINWATER.**





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