



Professional Rainwater
Harvesting Solutions



Carat

RAINWATER HARVESTING
STORMWATER MANAGEMENT

The Carat

The First Rainwater Tank of its Kind!

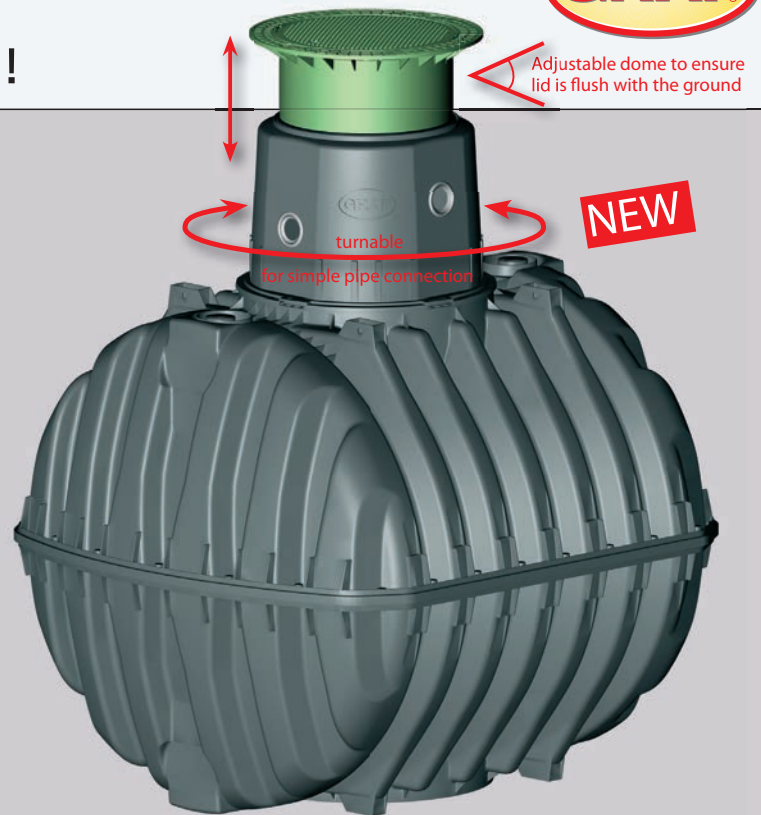


Unique manufacturing process

The GRAF Carat underground tank is unlike any other underground tank in the world. It is the largest tank of its kind to be manufactured by injection compression molding. This technique provides the tank with unbeatable stability and ensures that each component is produced with the highest of accuracy.

Unlike other underground tanks, the wall thickness is equal in all areas of the tank. The production tolerances are kept to a minimum, resulting in a product of the highest quality, which is strong, accurate, reliable and extremely user-friendly.

To manufacture the Carat range, one of the world's largest injection moulding systems was developed.



The Carat underground tank is made from Duralen®, a high quality material that is extremely rigid and impact resistant, ideally suited for producing underground tanks. With very low warping characteristics and high stiffness, this material provides high stability and a unique life expectancy. Duralen® can also be easily recycled which reduces waste and environmental impact.

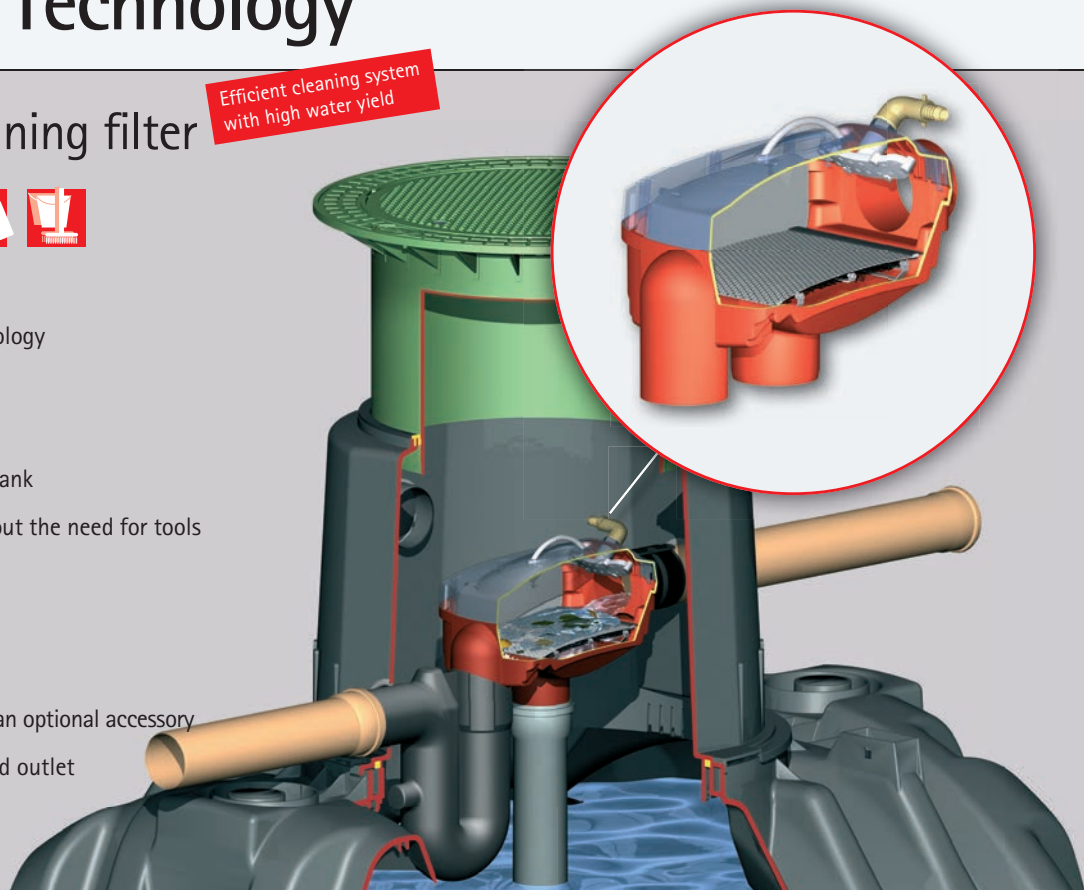
Internal Filter Technology

Optimax Pro, self-cleaning filter **NEW** Efficient cleaning system with high water yield

Advantages

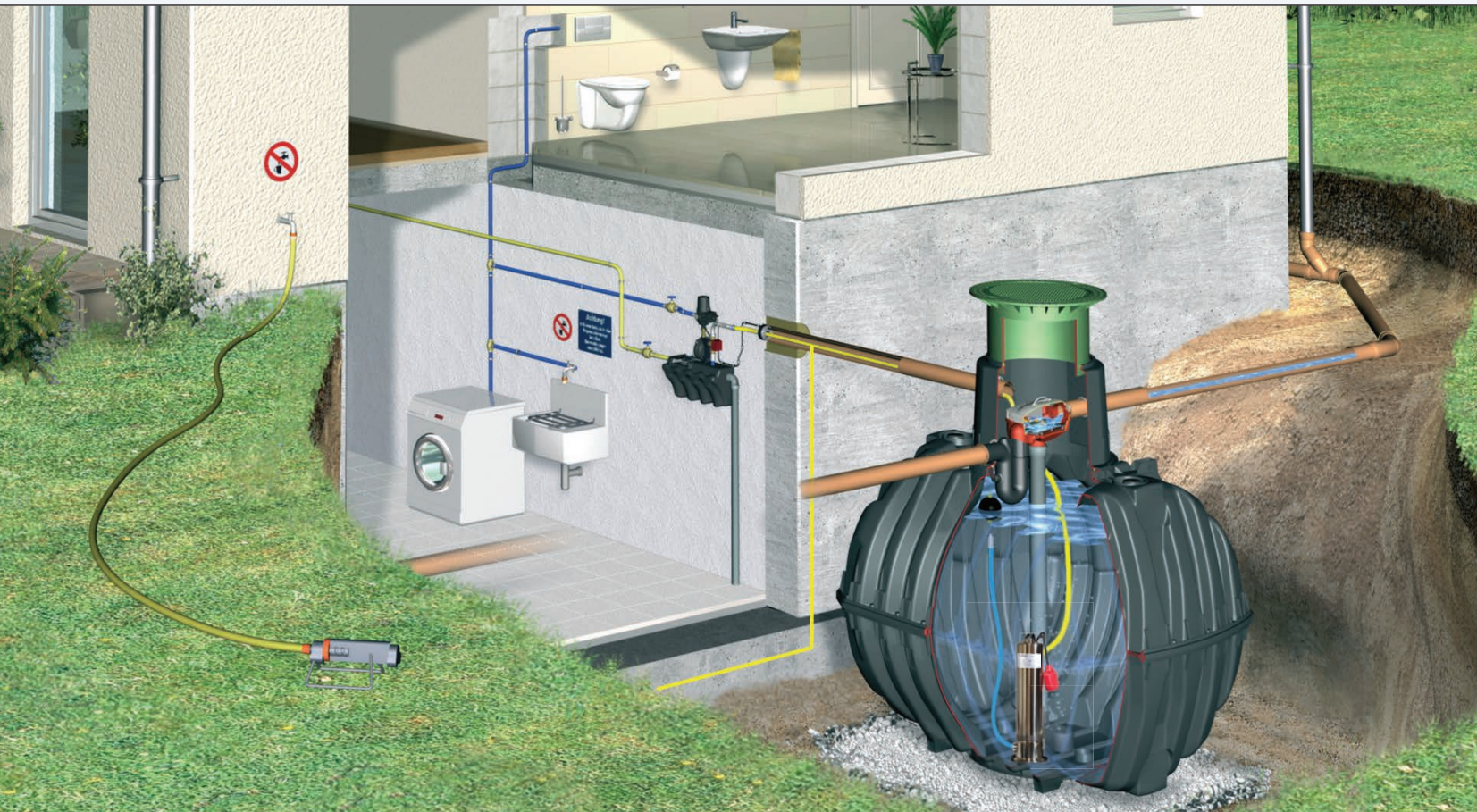


- Provides over 95% water yield
- Utilizes patented, high quality filter technology
- Low-maintenance (self-cleaning)
- TUV-tested to German standards
- Space-saving filter technology inside the tank
- Filter housing can be easily removed without the need for tools
- Transparent lid for filter visibility
- Can manage roof areas up to 3,750 sq.ft.
- Standard 4" connections
- Self cleaning Opticlean system available as an optional accessory
- Low offset height of 6.5" between inlet and outlet



Eco-Plus Package

The Ideal Solution for use in the Home and Garden



Carat Underground Tank Package



- Economic package solution
- Patented self cleaning filter technology
- Automatic 1.25HP pump system
- Easy to assemble with modular and compatible components
- Only one cover viewable on the surface
- Mosquito proof design



Scope of Supply

- 1,700 gallon Carat underground tank
- Mini telescopic dome shaft for pedestrian loading with an adjustable PE lid and convenient hose connection access in lid
- Eco-Plus package, consists of:
 - Internal Optimax-Pro (self-cleaning) filter
 - Inflow stilling system for controlling water inflow
 - Overflow siphon and rodent guard
 - Spannfix pipe connection sleeve
- Eco-Plus pump package consists of:
 - 1.25HP, 115V automatic pump system
 - Stainless steel floating extractor
 - 40 ft. cord

Optional Accessories

Rainwater System Controller

The Rainwater System Controller manages all of the functions required in a typical residential or commercial rainwater collection system.



Digital Water Level Indicator

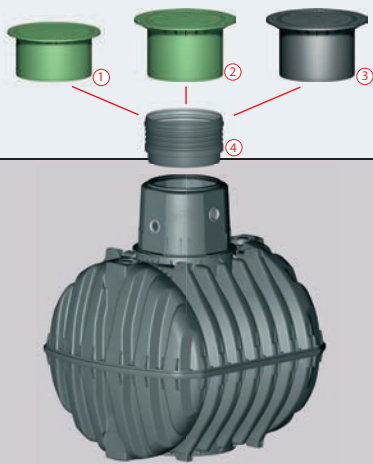
The Digital Water Level Indicator accurately displays the water level in a rainwater tank from 0 to 100%.



Vehicle Loading Option

Heavy duty riser with cast iron lid.





Benefits of the Carat System

Strong, User-Friendly and Better for the Environment

- ① **Mini telescopic dome shaft with PE lid (green)**
Designed for non-vehicle loading and ideal for garden use, the shaft can be adjusted from 29.5"- 37.5" and tilted up to 5% to sit flush with the ground level. Includes a PE lid with child safety lock.
- ② **Maxi telescopic dome shaft with PE lid (green)**
Designed for non-vehicle loading and ideal for the Complete Package (Eco-Plus), the shaft can be adjusted from 29.5"- 41" and tilted up to 5% to sit flush with the ground level. Includes PE lid with child safety lock.
- ③ **Vehicle loading telescopic dome shaft with cast iron lid**
Designed for vehicle loading applications, the tank can be adjusted from 29.5"- 41" and tilted up to 5% to sit flush with the ground level. Includes child-safe cast iron cover. This item is supplied in dark grey.
- ④ **Extension**
For use with the telescopic dome shaft to increase the overall height by 19". Always refer to installation instructions when using this item.



NEW

The Modular Carat System

Choose Your Tank Size (1,700 - 3,400 US-Gallons)

Carat, vehicle bearing underground tank

Designed to be used in conjunction with the vehicle loading telescopic dome shaft. The access dome is designed in accordance with German DIN testing. Up to 8 ton max. axle loading and 12 ton max. total weight.

Shown with optional car-bearing cast iron lid.

Technical data

Dimensions/weight	1,700 US Gallons
Length	94 inches
Width	86 inches
Height (including tank dome)	107 inches
Weight	485 lbs.
Earth covering	31.5 - 47.2 inches
Groundwater stable	up to the mid. of tank
Required earth covering	31.5 inches



GRAF – Setting the Standards in Quality



Production site at Teningen (Germany) near Freiburg

High Quality Manufacturing

GRAF has invested more than \$30 million in a new production site specially set up for

the new CARAT range. The new facility has an approximate surface area of 1.6 million sq.ft. – one of the most modern production facilities for plastic products in the world.

For over 45 years, Otto Graf GmbH has been offering high-class plastic products to its customers. In 1974 GRAF developed its first pioneering range of rainwater harvesting products. Now GRAF is recognized as Germany's number one rainwater harvesting brand and proudly presents the new premium Carat range of the tanks. A range which is manufactured in one of the most modern and efficient plastic manufacturing facilities in the world!

Warranty clause:

The warranty mentioned in this brochure only refers to the tank in question and not to the accessories or installation labor. Within the warranty period we grant free replacement of the material. Further benefits are excluded. Pre-condition for warranty benefits are proper handling, assembly and installation according to the installation guidelines.

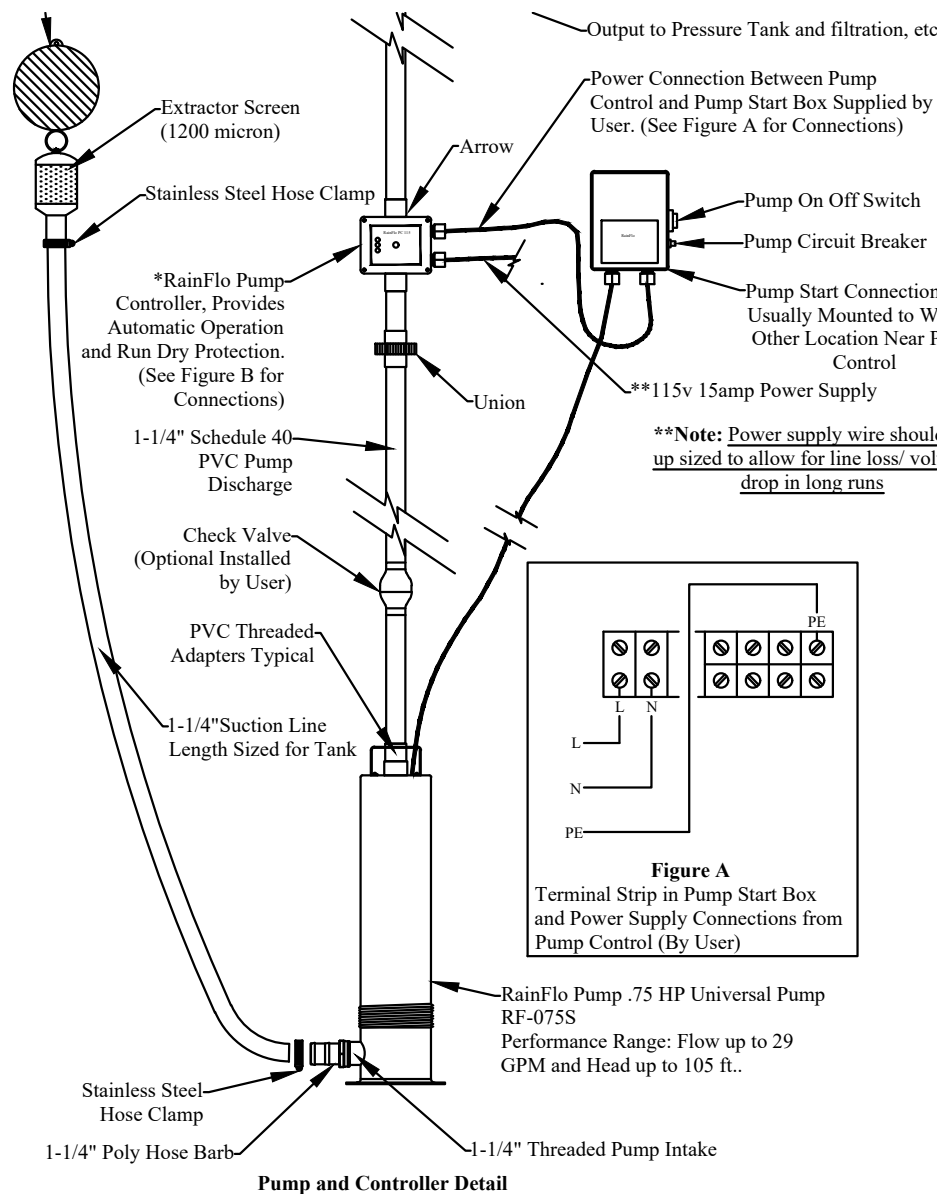
For all indications of measurements in this brochure we reserve a tolerance of +/- 3%. The useful volume of the tanks may be up to 10% lower than the tank capacity, according to the connecting option.

Always consult local building codes for specific requirements in your area.

Imported in the US by:
RainHarvest Systems
6075 Parkway North Dr.
Cumming, GA 30040
770-889-2533
www.RainHarvest.com



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Pump and Controller Detail

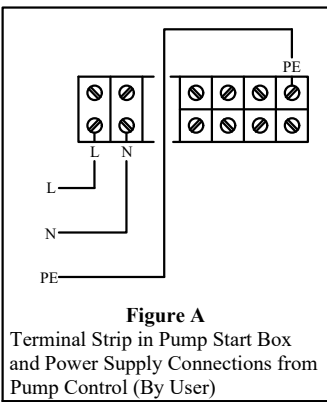


Figure A
Terminal Strip in Pump Start Box
and Power Supply Connections from
Pump Control (By User)

Legend	
1.	GRAF Carat S 700 Gallon Underground Tank.
2.	GRAF Optimax Pro Internal High efficiency, self-cleaning, In Tank filtration system.
3.	4" overflow drain to storm drain or other. Typically 4" PVC Sewer and Drain.
4.	1-1/4" Bulkhead Fitting for plumbing thru tank or riser assembly.
5.	115v Power supply.
6.	Overflow siphon.
7.	GRAF 1-1/4" Floating Pump Extractor with 1200 Micron Coarse Screen
8.	RainFlo .75 HP 115v Submersible Rainwater Pump High performance submersible rainwater pump with stainless steel base and 1-1/4" threaded inlet for use with a floating filter.
9.	4" Pipe Gasket.
10.	4" PVC from Roof Gutters and Downspouts (By Others).
11.	1 1/4" Schedule 40 PVC Pump output to use.
12.	Calming inlet to prevent the disturbance of the fine sediment layer at bottom of tank.
13.	Adjustable Riser and Childproof Lid.
14.	4" Pipe Coupler.
15.	Pump Output Line to Irrigation (By Others).
16.	Dome and Shaft Seal Gaskets.



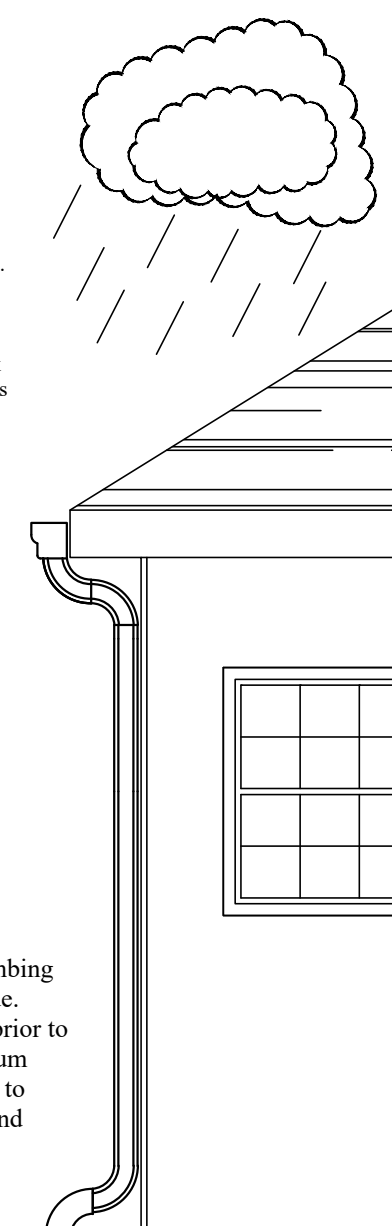
USER'S Responsibility

Untreated Rainwater is NON-Potable water. Warning do not drink water supplied from RainHarvest Systems rainwater systems and related equipment. We will be happy to offer suggestions on the use of our various products either by way of printed material or through direct contact with RainHarvest Systems team members. However, since we have no control over the use of our products once they are shipped, NO WARRANTY WHETHER OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHERWISE is made beyond the repair, replacement, or refund of purchase price at the sole discretion of RainHarvest Systems. Users shall determine the suitability of the product for the intended application before using, and the users assume all risk and liability whatsoever in connection therewith, regardless of any team members suggestions or statements as to the application or construction. In no event shall any remedy exceed the purchase price of the product. Consult local building codes for the system use.

GRAF Optimax High efficiency, Self-Cleaning, In Tank Filtration System:

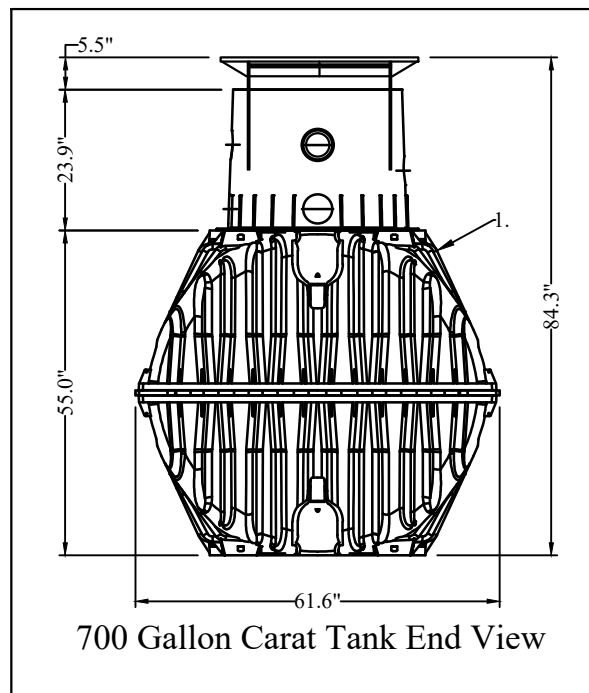
- * Filter specially developed for rain water harvesting
- * Low maintenance; self cleaning
- * Only 6.5" height offset between inlet and outlet
- * 0.35mm (.01") mesh filter
- * Transparent cover for easy maintenance
- * Optional Opticlean® Sprayhead
- * Over 95% yield
- * Self-cleaning filter
- * Max. 3,750 sq. ft. with 4" connections
- * Space saving filter technology integrated in the tank

Tank height should be set and plumbing pitched to best utilize existing grade. A site assessment should be done prior to installation to determine the optimum levels for filter and plumbing so as to provide positive drainage to tank and stormwater overflows.

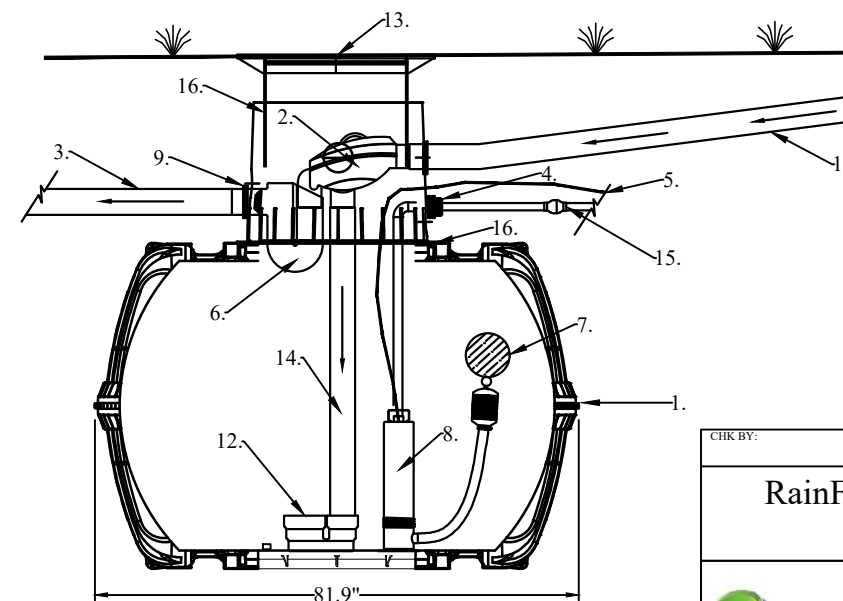


GRAF Carat S 700 Gallon Tank Specifications:

- 1. Variable burial depth: 30" to 42" (59" Max. with optional dome extension and "Maxi" telescopic riser).
- Unique in the world! – a global innovation: unique manufacturing process produces the highest stability due to latest techniques.
- Unique fit accuracy of the components thanks to new production process.
- Consistent quality due to TÜV safety testing and production monitoring.
- Vehicle-bearing (with telescopic cast iron manway kit). Groundwater stable up to the middle of the tank due to extremely rigid construction.
- Secure investment with market leading 15-year warranty. Made from high quality Duralene; easy to recycle.
- Can be expanded as required.



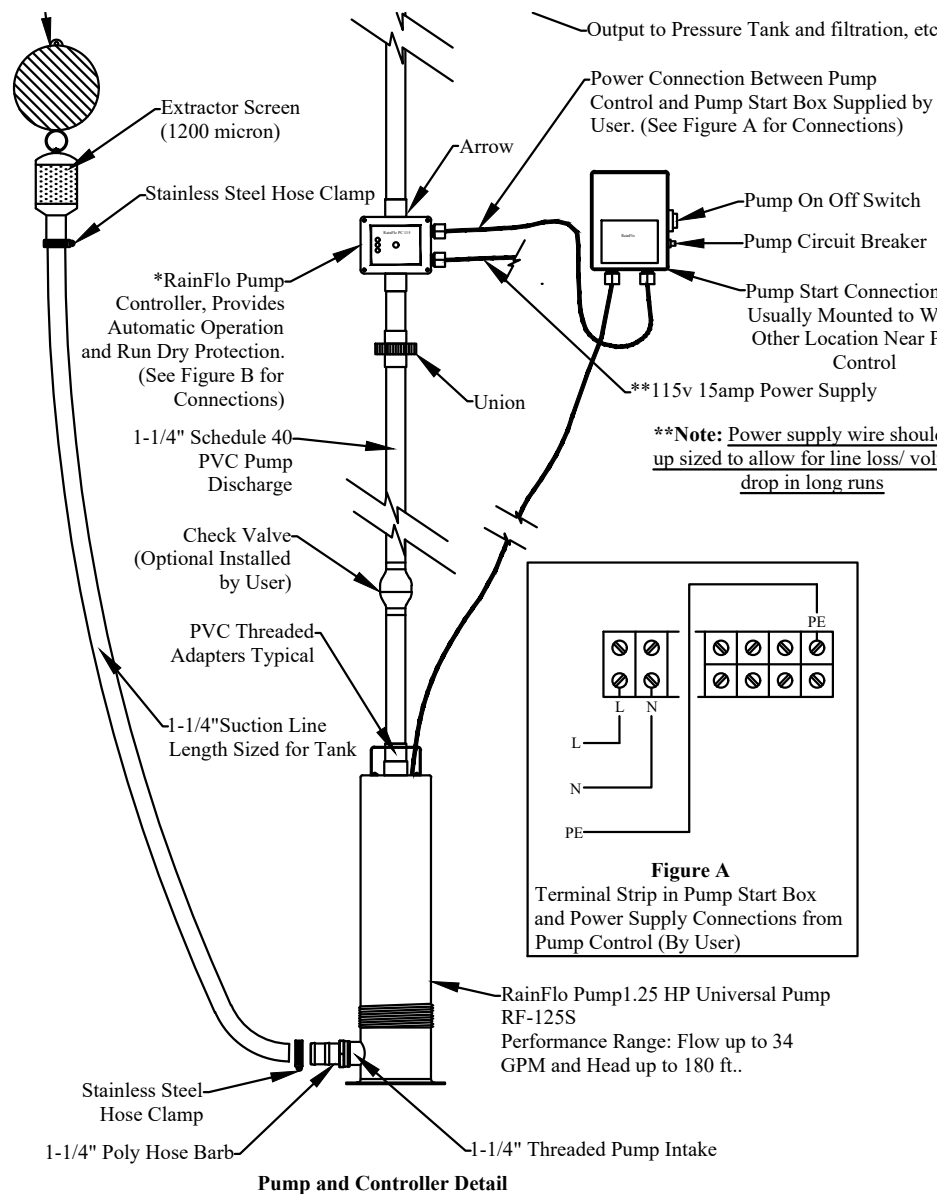
700 Gallon Carat Tank End View



700 Gallon Carat Tank Cutaway Side View

NOTE: This drawing is for illustrative purposes only. Actual systems and designs may vary. Always check with local building codes as they will apply. Electrical work to be performed by licensed professional. Points of use shall be labeled as: "Non Potable water, Do Not Drink!"

CHK BY:	APP BY:	DRAWN BY: CMG	QUOTE NO.:	SH/# 1 OF 1
RainFlo 700 IG GRAF Rainwater Collection System				
		RainHarvest Systems LLC. 4475 Alicia Lane Cumming, GA 30028 Tel: 770-889-2533 Fax: 770-889-2577		



Legend	
1.	GRAF Carat S 1000 Gallon Underground Tank.
2.	GRAF Optimax Pro Internal High efficiency, self-cleaning, In Tank filtration system.
3.	4" overflow drain to storm drain or other. Typically 4" PVC Sewer and Drain.
4.	1-1/4" Bulkhead Fitting for plumbing thru tank or riser assembly.
5.	115v Power supply.
6.	Overflow siphon.
7.	GRAF 1-1/4" Floating Pump Extractor with 1200 Micron Coarse Screen
8.	RainFlo 1.25 HP 115v Submersible Rainwater Pump High performance submersible rainwater pump with stainless steel base and 1-1/4" threaded inlet for use with a floating filter.
9.	4" Pipe Gasket.
10.	4" PVC from Roof Gutters and Downspouts (By Others).
11.	1 1/4" Schedule 40 PVC Pump output to use.
12.	Calming inlet to prevent the disturbance of the fine sediment layer at bottom of tank.
13.	Adjustable Riser and Childproof Lid.
14.	4" Pipe Coupler.
15.	Pump Output Line to Irrigation (By Others).
16.	Dome and Shaft Seal Gaskets.



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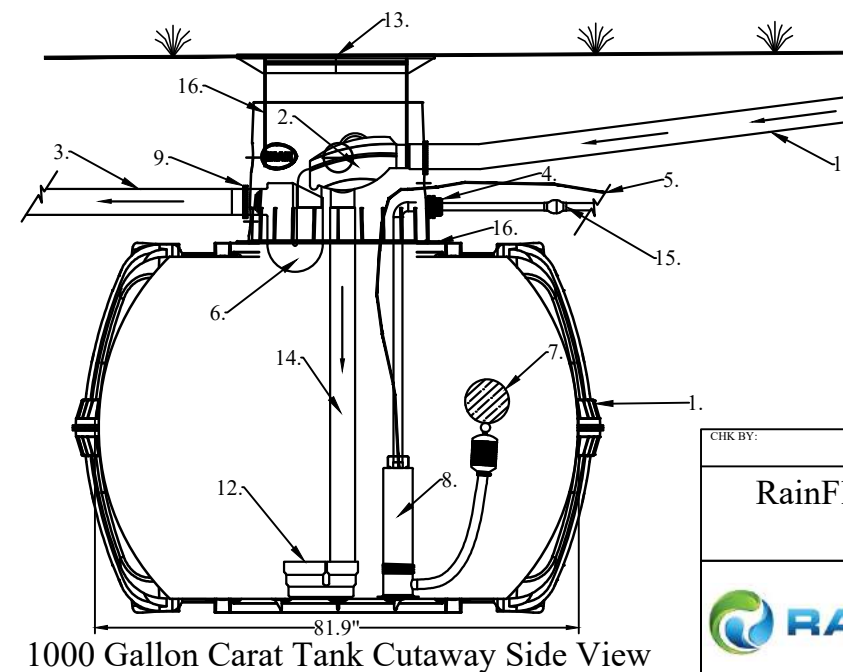
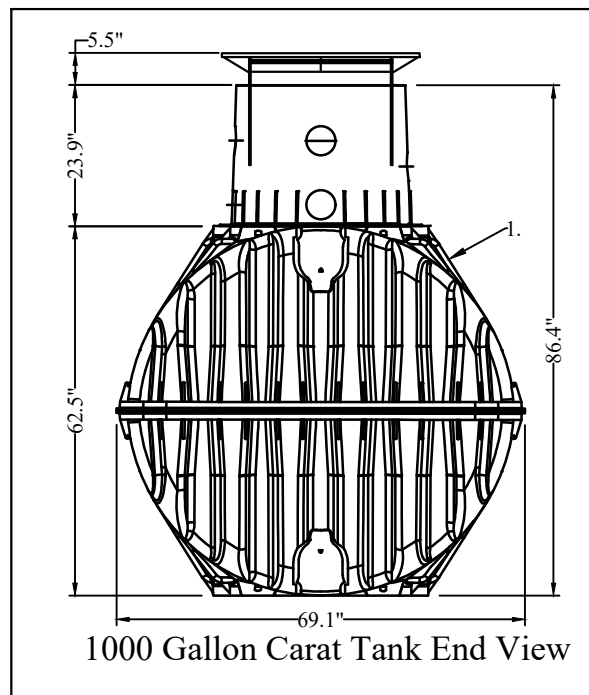
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- * Low maintenance; self cleaning
- * Only 6.5" height offset between inlet and outlet
- * 0.35mm (.01") mesh filter
- * Transparent cover for easy maintenance
- * Optional Opticlean® Sprayhead
- * Over 95% yield
- * Self-cleaning filter
- * Max. 3,750 sq. ft. with 4" connections
- * Space saving filter technology integrated in the tank

GRAF Carat S 1000 Gallon Tank Specifications:

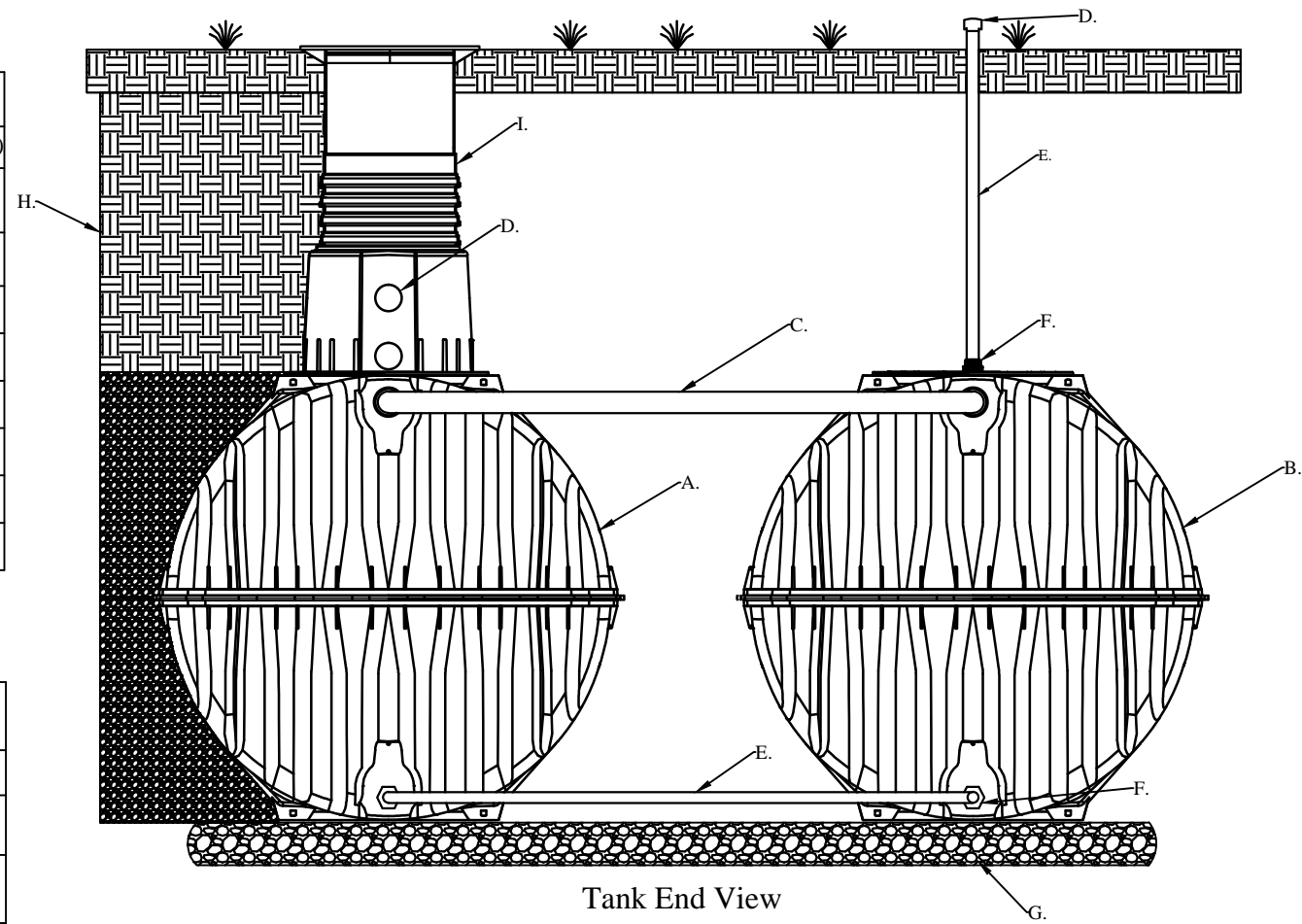
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		RainHarvest Systems LLC. 4475 Alicia Lane Suite 100 Cumming, GA 30028 Tel: 770-889-2533 Fax: 770-889-2577		

Legend A	
A.	GRAF Carat S 1700 Gallon Underground Tank (1)
B.	GRAF Carat S 1700 Gallon Underground Extension Tank (1)
C.	Optional Upper Tank Connection
D.	2" Screened Tank Vent (2)
E.	2" Lower Balancing Lines
F.	2" Banjo Bulkhead Fitting
G.	Gravel Base (#57) and Backfill (#89 or Pea)
H.	Native Soil Backfill (Above Tank)
I.	12" Riser Extension for Tank Access (Optional)

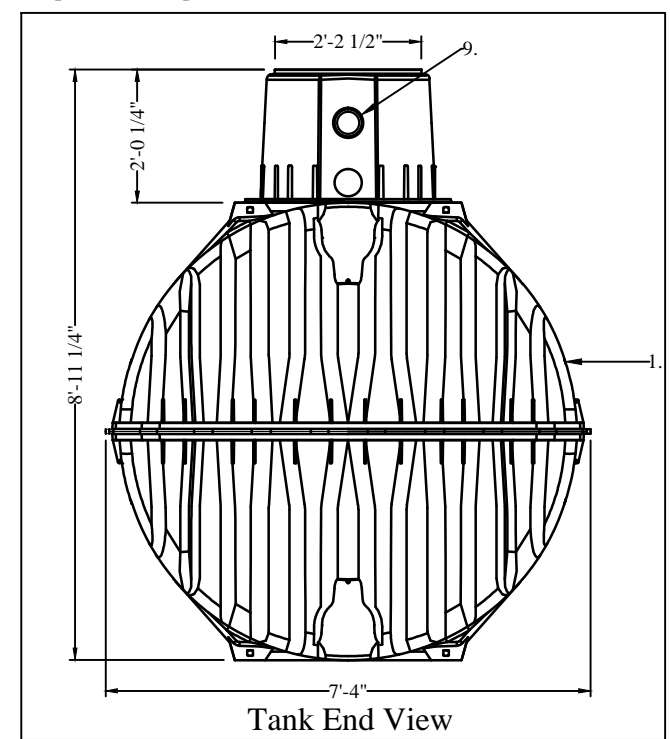


Tank End View
3400 Gallon System

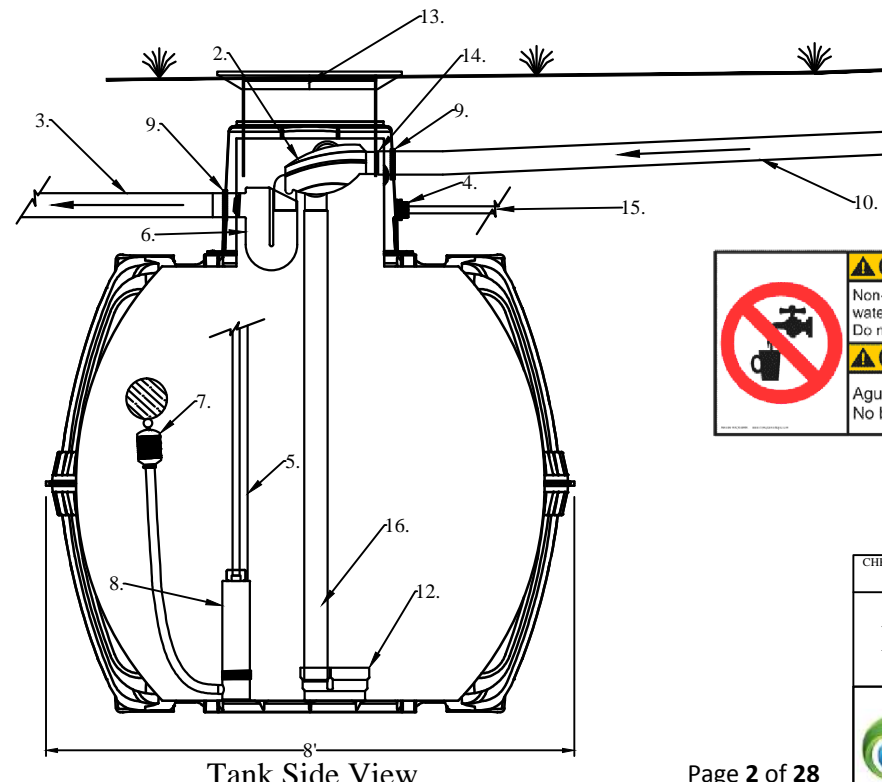
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Legend B	
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8.	RainFlo 1.25 HP Submersible Pump. Continuous duty with stainless steel base and a 1-1/4" threaded intake for use with a floating filter.
9.	Graf 4" Pipe Gasket
10.	4" Leader from Roof Gutters and Downspouts
11.	1 1/4" Schedule 40 PVC Pump output to Use
12.	Calming inlet to prevent the disturbance of the fine sediment layer at bottom of tank
13.	Adjustable Riser and Childproof Lid
14.	4" Flexible Pipe Coupler
15.	Pump Output Line to Irrigation or other source
16.	4" PVC Pipe From Optimax Filter Affixed to Calming Inlet

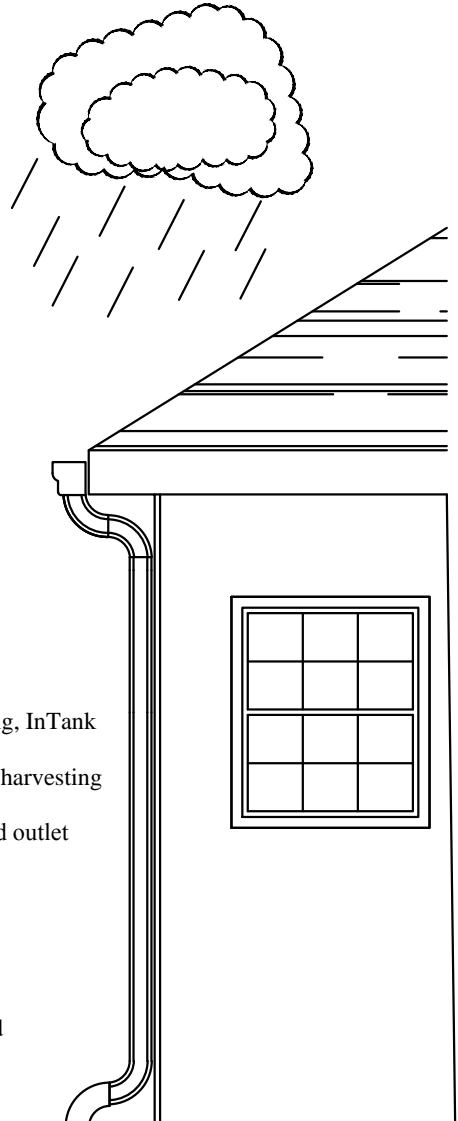


Tank End View



Tank Side View

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