Benefits of the Carat System
Flexible, stackable, user-friendly and better for the environment

- **Mini telescopic dome shaft with PE lid**
  Designed for non-vehicle loading and ideal for garden use, the shaft can be adjusted from 750 – 950 mm and tilted up to 5% to sit flush with the ground level. Includes a PE lid with child safety lock. This item is supplied in green.

- **Maxi telescopic dome shaft with PE lid**
  Designed for non-vehicle loading and ideal for the Complete Package (Eco-Plus), the shaft can be adjusted from 750 – 1,050 mm and tilted up to 5% to sit flush with the ground level. Includes PE lid with child safety lock. This item is supplied in green.

- **Vehicle loading telescopic dome shaft with cast iron lid**
  Designed for vehicle loading applications, the tank can be adjusted from 750 – 1,050 mm 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.

- **Extension**
  For use with the telescopic dome shaft to increase the height of the lid from 1,000 - 1,500 mm. Always refer to installation instructions when using this item.

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**Logistical advantages of the Carat**
The Carat tank consists of two half shells which can be stacked on top of each other, allowing multiple tanks to be stacked on a single pallet for shipping. For example, it is possible to stack five 6,500 ltr Carat tanks, or nine 2,700 ltr Carat tanks on a single pallet. This allows a standard 40 ft. shipping container to house a total tank volume of up to 130,000 ltrs! The tanks unique stacking feature directly reduces transport costs and environmental impact from vehicle emissions, whilst allowing shipments to any destination in the world.

**Easy and safe assembly**
- The patented quick connection (illustrated in green), allows the Carat tank to be assembled without screws in only a few minutes. Disassembly is possible at any time.
- The first-class EPDM material used in the profile sealings (illustrated in yellow), has been laboratory tested to last more than 25 years.
- The centering bolt (illustrated in orange) assures the accurate and easy assembly of the two half shells preventing any leaks.
The Carat

The first Rainwater underground 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 moulding. 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 had to be developed.

The Carat underground tank is made from Duralen®, a high quality material that is extremely rigid and impact resistant, therefore 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.
The modular Carat system
Choose your tank size

Carat, vehicle bearing underground tank
Size 2,700 – 13,000 litres (700 – 3,400 US-Gallons).
Designed to be used in conjunction with the vehicle loading telescope dome shaft.
The access dome is designed in accordance to DIN testing.

Volume

<table>
<thead>
<tr>
<th>Litres</th>
<th>US-Gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,700</td>
<td>700</td>
</tr>
<tr>
<td>3,750</td>
<td>1,000</td>
</tr>
<tr>
<td>4,800</td>
<td>1,250</td>
</tr>
<tr>
<td>6,500</td>
<td>1,700</td>
</tr>
<tr>
<td>7,500*</td>
<td>2,000*</td>
</tr>
<tr>
<td>9,600*</td>
<td>2,500*</td>
</tr>
<tr>
<td>13,000*</td>
<td>3,400*</td>
</tr>
</tbody>
</table>

* Set consisting of two Carat underground tanks

Technical data

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>2,080 mm (81.9 inches)</td>
<td>2,280 mm (89.8 inches)</td>
<td>2,280 mm (89.8 inches)</td>
<td>2,390 mm (94.1 inches)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td>1,565 mm (61.6 inches)</td>
<td>1,755 mm (69.1 inches)</td>
<td>1,985 mm (78.1 inches)</td>
<td>2,190 mm (86.2 inches)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heigh (including tank dome)</td>
<td>2,010 mm (79.1 inches)</td>
<td>2,200 mm (86.6 inches)</td>
<td>2,430 mm (95.7 inches)</td>
<td>2,710 mm (106.7 inches)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height of tank dome</td>
<td>610 mm (24.0 inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal Ø tank dome</td>
<td>800 mm (31.5 inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>120 kg (265 lbs.)</td>
<td>150 kg (331 lbs.)</td>
<td>185 kg (408 lbs.)</td>
<td>220 kg (485 lbs.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Load

<table>
<thead>
<tr>
<th>Max. axle load</th>
<th>Car-bearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth covering</td>
<td>800 – 1,200 mm (31.5 – 47.2 inches)</td>
</tr>
</tbody>
</table>

Groundwater

<table>
<thead>
<tr>
<th>Groundwater stable</th>
<th>up to the middle of the tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required earth covering</td>
<td>800 mm (31.5 inches)</td>
</tr>
</tbody>
</table>

Illustration shows 4,800 litres (1,250 US-Gallons) tank with cast iron telescopic dome shaft for vehicle loading
Garden Comfort package
The simple garden solution with submersible pump system

Carat underground tank package

- Simple to install and use
- Use a simple hose connection socket and pressure sensitive pump for automatic water activation, purposely designed for the Gardena® system
- Low visual impact
- Reduces electricity consumption by using a pressure drop activation system, so that electricity is only used when required

Scope of supply

- Carat underground tank
- Mini telescopic dome shaft for pedestrian loading with an adjustable PE lid
- Filter package 2, consisting of:
  - Internal Universal Filter 3
  - Inflow stilling system for controlling the water inflow
  - Overflow siphon and rodent guard
  - Spannfix pipe connection sleeve
- Garden Comfort pump package, consists of:
  - Integra-Duo® 1100 Submersible pump, with protection against dry running and automatic Start / Stop function
  - Floating water extraction unit
  - Water hose connection box
  - 10 m of pressure hose

Volume

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* Set consisting of two Carat underground tanks

Vehicle loading version available on request
Eco-Plus package
The ideal solution for use in the home and garden

Carat underground tank package
Eco Plus

- Economic package solution
- Patented filter technology and in-house pump system with automatic switch-over to mains water supply
- Easy to assemble due to modular components
- Float switch controlled
- Only one cover viewable on the surface

Scope of supply
- Carat underground tank
- Maxi telescopic dome shaft for pedestrian loading with an adjustable PE lid
- Filter package 3, consisting of:
  - Internal Optimax-Pro (self-cleaning) filter
  - Inflow stilling system for controlling the water inflow
  - Overflow siphon and rodent guard
  - Spannfix pipe connection sleeve
- Eco-Plus pump package consists of:
  - Water supply control unit
  - Floating water extraction unit
  - DN 100 wall duct
  - Labelling set
  - Suction pipe

Volume

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*Set consisting of two Carat underground tanks

Vehicle loading version available on request
Internal filter technology

Optimax Pro, self-cleaning Filter

Advantages

- Provides over 95% water yield
- Utilises patented, high quality filter technology
- Low-maintenance (self-cleaning)
- TÜV-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 350 m²
- Standard 100 mm connections
- Self cleaning Opticlean system available as an optional extra
- Low offset height of 165 mm between inlet and outlet

Universal Filter 3

Advantages

- Allows up to 100% water yield
- Ideal for small roof surfaces
- Space-saving filter technology inside the tank
- The Filter housing can be easily removed without the need for tools
- Ideally suited when connecting the tank to a soakaway
- 250 mm offset height between inlet and outlet
- Can manage roof areas up to 350 m²
- Standard 100 mm connections
- Emergency overflow system available (optional extra)
For over 40 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 recognised 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. 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 mounting guidelines.

N.B. Protect tanks from frost when installed above-ground! In case of groundwater installation, please contact us for further information previous to the purchase!

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.

Technical modifications and further development of the different products are subject to change. Errors excepted.