GRAF – Setting standards in quality

For 50 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. Today we are market leader in numerous countries for rainwater harvesting systems.

High Quality Manufacturing

GRAF is investing continuously in the expansion of the headquarters in Teningen near Freiburg (Breisgau). The facility has now an approximate area of 155,000 m² and is one of the most modern production facilities for plastic products in the world. Our choice of Germany for the new production site was easy. On the one hand, we feel an obligation to the site because of our history. On the other, we would like to offer our customers products of the highest quality.

Logistics Expertise

GRAF products are exported to over 60 countries around the globe. The share of products exported by our company has almost doubled over the last five years. We owe the outstanding loyalty of our customers to unique product quality, great value for money and the distinct service approach we deploy with our trade partners. Well thought-out logistics with short response and delivery times are essential to ensure a high standard of service. GRAF logistics have an impressively high delivery rate of 99%.

Engineering Expertise

More than 200 registered property rights and countless awards document our work as an innovation leader. These innovations are the growth drivers and basis for our economic success. All GRAF products are designed by our own development department, which brings together all the expertise needed, from design and function to construction and structural analysis.

Our goal: your satisfaction

More than 100,000 satisfied customers already benefit from the advantages of GRAF rainwater harvesting systems.

Durable products: reliable investment

Right from the product development stage, GRAF attaches great importance to durable design. GRAF offers a warranty of up to 15 years for its rainwater tanks. All products manufactured by GRAF are also 100% recyclable.

Sustainability starts with production

Nearly all GRAF products work to protect the environment. Thanks to GRAF rainwater harvesting systems our customers can cut their mains water consumption by at least 50%. State-of-the-art facilities in the production process ensure minimal use of resources. Our injection moulding process requires considerably less energy than standard. The heat produced during production is used to heat the production and logistics building thanks to heat recovery.

Environmental products from recycled raw materials

Over 50% of the raw materials processed at GRAF are recycled. Thanks to an in-house raw materials recycling facility, we ensure a constantly high quality of raw materials and take account of the sustainability concerns of our products throughout the value added chain.

Seamless quality assurance

Our products portray an image of superlative production quality and reliability. Each part is then given a serial number. The production process for each and every tank is documented throughout. All production parameters, such as weight or material batch, are recorded for quality assurance.

High Quality Manufacturing

Our products have to satisfy a huge number of different requirements, which is why GRAF is an expert in all the common procedures for manufacturing plastic products and has access to the optimum manufacturing process for every product.

World’s biggest injection moulding machine

BLOW Moulding process

Rotational moulding
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## Stormwater Management

The infiltration range

- Infiltration modules
- Infiltration filters
- Retention cisterns
- Shafts and accessories

### Catalogue Stormwater Management

For more information about our Stormwater Management, ask for our catalogue.

### Functions of the app

- Calculate your annual savings
- Browse the complete product range
- Access the video channel GRAF TV

[Webcode G1103](www.graf-water.com)

## Symbols in the catalogue

### Load capacity

- Suitable for pedestrian loading
- Suitable for vehicle loading
- Lorry-bearing

### Application range

- Watering the garden
- Flushing the toilet
- Washing machine
Carat S underground rainwater tank
Ingeniously designed down to the smallest detail

Unique manufacturing process
The GRAF Carat S 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 S range, one of the worlds largest injection moulding systems had to be developed.

The tank with a smart head!

Built-in professional filter technology
The GRAF Optimax-Pro filter is specially designed to be used in the GRAF Carat S underground tank.
- Compact filter technology integrated in the tank
- Low maintenance, self-cleaning
- Optional internal cleaning unit
- Transparent cover for easier inspection
- Water yield of over 95%

See page 60 for more information

Four-stage cleaning process for best water quality

Stage 1
First the rainwater is cleaned by a patented filter system. The cleaned water flows into the tank and dirt particles are rinsed into the sewer system along with a small amount of residual water.

Stage 2
To allow very fine dirt particles to settle, the filtered water is routed through a steady inflow pot on the base of the tank. This prevents the water from being stirred up and also adds oxygen to the water at the bottom of the tank. This keeps the water clear and fresh.

Stage 3
Particles that are lighter than water (such as pollen) form a floating layer on the surface. The overflow siphon installed in the tank causes the floating layer to be removed when the tank overflows. So it’s important to let the tank overflow regularly to ensure consistent water quality.

Stage 4
The collected rainwater is removed by means of a floating extraction unit near the top of the tank. The best water quality is found around 10 cm (4") below the water’s surface.

Quality material
Duralen

Adjustable 360° Turnable
Carat S complete packages for garden irrigation

During a hot summer, as every gardener knows, it takes a lot of water to keep thirsty plants happy and healthy. But for owners of a GRAF rainwater harvesting system, there’s no need to worry! With Carat S complete packages, specially designed for watering the garden, rainwater harvesting is child’s play. The components are optimally designed to work together. The pump can be operated above ground or installed in the tank. The irrigation technology can be connected to the convenient GRAF water hose connection using a standard hose coupling. Carat S complete packages for garden irrigation are an effective solution for any garden.

100% water yield
GRAF garden packages have a basket filter that reliably holds back contaminants. The filter construction guarantees a water yield of 100%.

Dome shaft
The GRAF dome shaft provides easy access to the filter and tank. It features a tank cover suitable for pedestrian loading and blends seamlessly into the ground surface. Because it is flush with the ground, the tank cover won’t get in the way during lawn mowing.

Automatic pump
The Carat S garden Comfort complete package includes a submersible pump that switches on and off automatically. The water can be extracted very easily: just open the tap and you have water on demand!

Easy extraction
GRAF’s unique water hose connection allows you to connect up equipment for watering the garden. It can be installed at any location in the garden or in the tank cover itself. Simply connect your garden hose or lawn sprinkler to the integrated standard connection valve.

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GRAF’s unique water hose connection allows you to connect up equipment for watering the garden. It can be installed at any location in the garden or in the tank cover itself. Simply connect your garden hose or lawn sprinkler to the integrated standard connection valve.

Carat S tank
Carat S garden Jet package
The great value complete solution

Carat S garden Comfort package
The simple garden solution with submersible pump system

### Scope of supply

**Carat S garden Jet package**
- Carat S / Carat XL underground tank
- Mini telescopic dome shaft for pedestrian loading with an adjustable PP lid (750 mm - 950 mm (29.5 – 3’ 1.4”)
- Filter package 2, consists of:
  - Internal Universal filter 3/XL internal
  - Inflow stilling system for controlling the water inflow
  - Overflow siphon and rodent guard
  - Spannfix pipe connection sleeve
- Garden Jet technical package consists of:
  - Jet 700 garden pump (page 72)
  - Internal and external water hose connection box (compatible with standard hose coupling, page 75)
  - Floating suction fitting with fine filter and hose
- Volume (l) | Volume (US gal.) | Connections
|--------------|-----------------|-------------
| 2,700        | 700             | 100 (4") / 150 (6") |
| 3,750        | 1,000           | 100 (4") / 150 (6") |
| 4,800        | 1,250           | 100 (4") / 150 (6") |
| 6,500        | 1,700           | 100 (4") / 150 (6") |
| 8,500\(^a\)  | 2,400           | 150 (6") |

\(^a\) Carat XL underground tank

**Carat S garden Comfort package**
- Carat S / Carat XL underground tank
- Mini telescopic dome shaft for pedestrian loading with an adjustable PP lid (750 mm - 950 mm (29.5 – 3’ 1.4”)
- Filter package 2, consists of:
  - Internal Universal filter 3/XL internal
  - Inflow stilling system for controlling the water inflow
  - Overflow siphon and rodent guard
  - Spannfix pipe connection sleeve
- Garden Comfort technical package consists of:
  - Integra INOX automatic submersible pump (page 73)
  - Internal and external water hose connection box (compatible with standard hose coupling, page 75)
  - Floating suction fitting with fine filter and hose
- Volume (l) | Volume (US gal.) | Connections
|--------------|-----------------|-------------
| 2,700        | 700             | 100 (4") / 150 (6") |
| 3,750        | 1,000           | 100 (4") / 150 (6") |
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| 6,500        | 1,700           | 100 (4") / 150 (6") |
| 8,500\(^a\)  | 2,400           | 150 (6") |

\(^a\) Carat XL underground tank

Vehicle loading version available see page 18

### Scope of supply

**Carat S garden Comfort package**
- Simple to install and use
- Use a simple hose connection socket and pressure sensitive pump for automatic water activation
- Low visual impact
- Reduces electricity consumption by using a pressure drop activation system, so that electricity is only used when required
- Integrated filter technology (100 % water yield)

Vehicle loading version available see page 19

Webcode G1202

You will find an enquiry form and sizing assistance on our website www.graf-water.com
Day after day households use precious drinking water to flush the toilet, run the washing machine and water the garden. But these applications, which use a lot of water, don’t actually require water of drinking quality. GRAF rainwater harvesting systems provide a reliable supply of rainwater for these uses, reducing drinking water consumption by around 50%. The self-cleaning Optimax-Pro filter feeds rainwater into the underground tank through the steady inflow. The feed technology (e.g., the GRAF Aqua-Center-Silentio, page 71) is installed in the technical room inside the house. It provides a reliable supply of rainwater to the separate supply network. When no rainwater is available, drinking water is automatically supplied instead.

Carat S complete packages for the home and garden

Self-cleaning filter
GRAF household packages include the patented Optimax-Pro filter. This self-cleaning filter delivers a water yield of over 95% and requires minimal maintenance. If required the filter can also be equipped with a cleaning unit, which cleans contaminants out of the filter at your preferred intervals. With a mesh width of just 0.35 mm (0.02”), the filter reliably holds back dirt.

Very high water quality
Not only the GRAF Optimax-Pro filter but also the floating extraction unit ensures very high water quality. This unit extracts the water from the cleanest zone – about 10 cm (4”) below the water’s surface. The GRAF Professional complete package also comes with a reversible flow fine filter that filters the water again before it is fed into the supply network.

Reliable, ultra-quiet intake
The GRAF Aqua-Center-Silentio monitors the level of rainwater in the Carat S underground tank. When no rainwater is available, drinking water is automatically supplied instead. For ultra-quiet operation the domestic water control unit is installed in a fully encapsulated housing.

What happens when my tank is empty?

GRAF TV
www.graf.info/carat

Carat S complete packages for home and garden
Carat S Eco-Plus package
The ideal solution for use in the home and garden

Carat S Professional package
The convenient complete solution for use in the home and garden

Carat S Eco-Plus package
- 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
- Low visual impact

Carat S Professional package
- Patented filter technology and in-house drinking water intake
- Easy to fit using modular technology
- Microprocessor control system
- Digital fill level display
- Automatic rinsing intervals for the intake reservoir and the filter
- Low visual impact

Scope of supply
1 Carat S / Carat XL underground tank
2 Maxi telescopic dome shaft for pedestrian loading with an adjustable PP lid
750 mm – 1,050 mm (29.5 – 3’ 5”)
3 Filter package 3 consists of:
   - Internal Optimax-Pro filter/XL internal (self-cleaning)
   - Inflow stilling system for controlling the water inflow
   - Overflow siphon with rodent guard function
   - Spannfix pipe connection sleeve
- Eco-Plus technical package consists of:
  - Drinking water feed console (page 70)
  - Floating suction fitting with fine filter and hose
  - DN 100 (4”) wall duct
  - Labelling set
  - PE suction pipe 25 mm (1”), length 12 m (39’ 4”)

Scope of supply
1 Carat S / Carat XL underground tank
2 Maxi telescopic dome shaft for pedestrian loading with an adjustable PP lid
750 mm – 1,050 mm (29.5 – 3’ 5”)
3 Filter package 3 consists of:
   - Internal Optimax-Pro filter/XL internal (self-cleaning)
   - Inflow stilling system for controlling the water inflow
   - Overflow siphon with rodent guard function
   - Spannfix pipe connection sleeve
- Professional technical package consists of:
  - Aqua-Center-Silentio drinking water feed module (page 71)
  - Floating suction fitting with fine filter and hose
  - DN 150 wall duct (6”)
  - Internal filter cleaning unit
  - Automatic filter cleaning system
  - Reversible flow fine filter
  - Labelling set
  - PE suction pipe 25 mm (1”), length 12 m (39’ 4”)

Volume
<table>
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<tr>
<th>Carat S</th>
<th>Carat XL</th>
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</thead>
<tbody>
<tr>
<td>[l]</td>
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<tr>
<td>3,750</td>
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<tr>
<td>4,800</td>
<td>1,250</td>
</tr>
<tr>
<td>6,500</td>
<td>2,300</td>
</tr>
<tr>
<td>8,5001)</td>
<td>2,400</td>
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</table>

Scope of supply
1 Carat S package Silentio Press suitable for pedestrian loading. Ideal for installations > 15 m (49’ 3”) away from the house

Volume
<table>
<thead>
<tr>
<th>Carat S</th>
<th>Carat XL</th>
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<tr>
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<td>2,300</td>
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<tr>
<td>8,5001)</td>
<td>2,400</td>
</tr>
</tbody>
</table>

Vehicle loading version available
See page 19

Webcode
1) Webcode 61203
2) Webcode 61204

* Carat XL underground tank
* Set consists of two Carat S underground tanks (Connecting pipes must be provided on site)
* Carat XL underground tank
* Set consists of two Carat S underground tanks (Connecting pipes must be provided on site)

Volume (l) Volume (US gal.) Connections (DN)

You will find an enquiry form and sizing assistance on our website: www.graf-water.com

Connecting pipes must be provided on site

Complete packages for vehicle loading
for use in the home and garden

Suitable for vehicle loading with cast iron cover
Do you want to install your GRAF complete package in your driveway or under your carport? The GRAF complete packages for vehicle loading with the cast iron telescopic dome shaft are extremely robust. They can bear a maximum axle load of 2.2 t. This provides a certain reserve for larger vehicles. A minimum earth covering of 800 mm (31.4”) is required for these loads. If the axle load is insufficient for your needs, please contact us. GRAF also offers solutions for special requirements!

Carat S garden Comfort package
Scope of supply
- Carat S / Carat XL underground tank
- Telescopic dome shaft cast iron, 800 mm – 1,050 mm (31.5” – 3’ 5”) earth covering, for vehicle loading with 2.2 t to cast iron cover
- Filter / pump package identical to package page 13

Carat S Eco-Plus package
Scope of supply
- Carat S / Carat XL underground tank
- Telescopic dome shaft cast iron, 800 mm – 1,050 mm (31.5” – 3’ 5”) earth covering, for vehicle loading with 2.2 t to cast iron cover
- Filter / pump package identical to package page 16

Carat S Professional package
Scope of supply
- Carat S / Carat XL underground tank
- Telescopic dome shaft cast iron, 800 mm – 1,050 mm (31.5” – 3’ 5”) earth covering, for vehicle loading with 2.2 t to cast iron cover
- Filter / pump package identical to package page 17

Carat S Professional package
Silentio Press
Ideal for distances ≥ 15 m (49’ 3”) to the house
Scope of supply
- Carat S / Carat XL underground tank
- Telescopic dome shaft cast iron, 800 mm – 1,050 mm (31.5” – 3’ 5”) earth covering, for vehicle loading with 2.2 t to cast iron cover
- Filter / pump package identical to package page 17

Carat S tank
Platin flat rainwater tank

Less digging! Less work! Less cost!

GRAF brand quality – try it for yourself!
- Minimum installation depth, which translates into short installation time and low costs
- Suitable for vehicle loading
- Groundwater stable

Four-stage cleaning process for best water quality

Stage 1
First the rainwater is cleaned by a patented filter system. The cleaned water flows into the tank and dirt particles are rinsed into the sewer system along with a small amount of residual water.

Stage 2
To allow very fine dirt particles to settle, the filtered water is routed through a steady inflow pot on the base of the tank. This prevents the water from being stirred up and also adds oxygen to the water at the bottom of the tank. This keeps the water clear and fresh.

Stage 3
Particles that are lighter than water (such as pollen) form a floating layer on the surface. The overflow siphon installed in the tank causes the floating layer to be removed when the tank overflows. So it's important to let the tank overflow regularly to ensure consistent water quality.

Stage 4
The collected rainwater is removed by means of a floating extraction unit near the top of the tank. The best water quality is found around 10 cm (4”) below the water’s surface.

How do you install a tank? I know!

Built-in professional filter technology

The GRAF Minimax-Pro filter (patented) is specially designed to be used in the GRAF Platin flat tank.
- Compact filter technology integrated in the tank
- Low maintenance, self-cleaning
- Optional internal cleaning unit
- Transparent cover for easier inspection of filter
- Water yield of over 95%

See page 59 for more information

Less digging! Less work! Less cost!
Platin garden Jet package
The low-cost complete solution

- Low-cost complete solution
- Integrated filter technology (100% water yield)
- Easy assembly thanks to modular design
- Easy installation and convenient water extraction with water hose connection (compatible with standard hose coupling)

Webcode G1220

Scope of supply
- Platin flat tank
- Mini dome shaft tank cover suitable for pedestrian loading, smooth telescopic adjustment from 455 mm – 655 mm (17.9” – 25.8”) earth covering
- Cast iron dome shaft suitable for vehicle loading, smooth telescopic adjustment from 455 mm – 755 mm (17.9” – 29.7”) earth covering

Platin filter package 2 consists of:
- Filter basket with suspension
- Overflow siphon, rodent guard
- Garden Jet pump package consists of:
- Jet 700 garden pump (page 72)
- Internal and external water hose connection box (compatible with standard hose coupling, page 75)
- Pump connection set with 1 m (3’ 3.4”) PVC hose
- Suction set with 12.5 m (41’) suction hose 25 mm (1”)

1,500  400  100 (4”)
3,000  800  100 (4”)
5,000  1,215  100 (4”)
7,500  1,980  100 (4”)
10,000  2,650  100 (4”)
15,000  3,960  100 (4”)

* Set consists of two Platin flat rainwater tanks (Connecting pipes must be provided on site)

Platin garden Comfort package
The convenient solution with automatic submersible pump

- Draw water from the socket like electricity
- Simple installation thanks to integrated filter technology
- Water can be extracted using an external water hose connection for standard watering systems
- Easy to assemble due to modular components
- Just one cover visible at the surface

Webcode G1221

Scope of supply
- Platin flat tank
- Mini dome shaft tank cover suitable for pedestrian loading, smooth telescopic adjustment from 455 mm – 655 mm (17.9” – 25.8”) earth covering
- Cast iron dome shaft suitable for vehicle loading, smooth telescopic adjustment from 455 mm – 755 mm (17.9” – 29.7”) earth covering

Platin filter package 2 consists of:
- Filter basket with suspension
- Overflow siphon, rodent guard
- Garden Comfort pump package consists of:
- Integra INOX automatic submersible pump (page 73)
- Internal and external water hose connection box (compatible with standard hose coupling, page 75)
- Floating suction fitting with fine filter and hose
- 10 m (33’) pressure hose 25 mm (1”)

1,500  400  100 (4”)
3,000  800  100 (4”)
5,000  1,215  100 (4”)
7,500  1,980  100 (4”)
10,000  2,650  100 (4”)
15,000  3,960  100 (4”)

* Set consists of two Platin flat rainwater tanks (Connecting pipes must be provided on site)

You will find an enquiry form and sizing assistance on our website www.graf-water.com
Platin complete package Eco-Plus
The low-cost complete solution for the home and garden

Scope of supply

- Platin flat tank
- Maxi dome shaft tank cover suitable for pedestrian loading, smooth telescopic adjustment from 455 mm – 755 mm (17.9” – 29.7”) earth covering or cast iron dome shaft suitable for vehicle loading, smooth telescopic adjustment from 455 mm – 755 mm (17.9” – 29.7”) earth covering
- Platin filter package 3 consists of:
  - Minimax-Pro internal filter (patented, self-cleaning)
  - Steady inflow pot, overflow siphon, Spannfix quick-assembly sleeve
- Eco-Plus pump package consists of:
  - Drinking water feed console (page 70)
  - Floating suction fitting with fine filter and hose
  - DN 100 (4”) wall duct
  - Labelling set
  - PE suction pipe 25 mm (1”), length 12 m (39’ 4”)

Platin Eco-Plus package
- Low-cost complete solution
- Patented filter technology
- Switch to drinking water supply in the home when needed
- Easy assembly thanks to modular design
- Float switch controlled
- Only one cover visible on the surface

Platin Professional package
The ideal complete solution for the home and garden

Scope of supply

- Platin flat tank
- Maxi dome shaft tank cover suitable for pedestrian loading, smooth telescopic adjustment from 455 mm – 755 mm (17.9” – 29.7”) earth covering or cast iron dome shaft suitable for vehicle loading, smooth telescopic adjustment from 455 mm – 755 mm (17.9” – 29.7”) earth covering
- Platin filter package 3 consists of:
  - Minimax-Pro internal filter (patented, self-cleaning)
  - Steady inflow pot, overflow siphon, Spannfix quick-assembly sleeve
  - Digital level gauge
  - Automatic rinse intervals of feed tank and filter
  - Only one cover visible on the surface

Platin Professional package
- Professional solution with patented filter technology
- Ultra-quiet operation thanks to encapsulated system control unit
- Switch to drinking water supply in the home when needed
- Easy assembly thanks to modular design
- Microprocessor control
- Digital level gauge
- Automatic rinse intervals of feed tank and filter
- Only one cover visible on the surface

You will find an enquiry form and sizing assistance on our website www.graf-water.com

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</tr>
<tr>
<td>15,000</td>
<td>3,960</td>
<td>100 (4”)</td>
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</table>

You will find an enquiry form and sizing assistance on our website www.graf-water.com
The GRAF modular system – simply unique

Choose your system from four different modulars

**Tank**

The underground tank Carat S, Carat XL or Platin is the basis for the modular system.

**Tank cover**

Would you like to install your tank in the garden or in a driveway? GRAF offers you a wide range of telescopic tank covers from plastic to cast iron.

**Filter package**

Are you looking for the best value solution or high-quality, self-cleaning filter technology? The GRAF filter package contains all components needed in the tank.

**Pump package**

From the simple garden pump to the fully automatic drinking water intake technology. The pump package also includes the accessories needed for installation.
Carat S underground tank – logistical advantages

Benefits
- Easy to transport
- Tank consists of two half-shells
- 5 – 9 tanks per pallet
- This allows up to 8 times more tank volume to be shipped thanks to the unique product design
- Up to 36 complete wastewater or rainwater systems per lorry

Dimensions

<table>
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<tr>
<th>Volume</th>
<th>Width B</th>
<th>Length L</th>
<th>Height H</th>
<th>Height H₂</th>
<th>Height of tank dome H₃</th>
<th>Inner Ø of tank dome</th>
<th>Weight</th>
<th>Order no.</th>
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<td>610 mm</td>
<td>630 – 800 mm</td>
<td>120 kg</td>
<td>372024</td>
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<td>3,750 l (1,000 US gal.)</td>
<td>1755 mm</td>
<td>2280 mm</td>
<td>1550 mm</td>
<td>2200 mm</td>
<td>610 mm</td>
<td>630 – 800 mm</td>
<td>150 kg</td>
<td>372025</td>
</tr>
<tr>
<td>4,800 l (1,250 US gal.)</td>
<td>1985 mm</td>
<td>2280 mm</td>
<td>1820 mm</td>
<td>2430 mm</td>
<td>610 mm</td>
<td>630 – 800 mm</td>
<td>185 kg</td>
<td>372026</td>
</tr>
<tr>
<td>6,500 l (1,700 US gal.)</td>
<td>2190 mm</td>
<td>2390 mm</td>
<td>2100 mm</td>
<td>2710 mm</td>
<td>610 mm</td>
<td>630 – 800 mm</td>
<td>220 kg</td>
<td>372027</td>
</tr>
</tbody>
</table>

Technical data
- Max. earth covering (without groundwater, vehicle loading): 1800 mm (6’ 0")
- Max. axle load: 8 to (176 lbs)
- Max. total weight: 12 to (2646 lbs)
- Earth covering required for vehicle loading: 800 – 1800 mm (31.5” – 5’ 11”)
- Groundwater stability: up to middle of tank
- Earth covering required for groundwater stability: 800 – 1800 mm (31.5” – 5’ 11”)
- Connection: DN 100 (4") / DN 150 (6") / DN 200 (8") on top
Carat S tank extension

Filter can be placed in the first tank to clean the water between the tanks.

**Technical data**

- Max. earth covering (without groundwater, vehicle loading): 1800 mm (5’ 11”)
- Max. axle load: 8 t (17637 lbs)
- Max. total weight: 12 t (26456 lbs)
- Earth covering required for vehicle loading: 800 – 1800 mm (31.5” – 5’ 11”)
- Groundwater stability: up to middle of tank
- Earth covering required for groundwater stability: 800 – 1800 mm (31.5” – 5’ 11”)
- Connection: DN 100 (4”) / DN 150 (6”) / DN 200 (8”) on top

**Accessories**

- Extension filter: Order no. 371005
- Drill DN 100 (4”): Order no. 202003
- Special seal 100: Order no. 332033
- Special seal 150: Order no. 333035

---

Carat XL underground tank

**Tank sets**

For dimensions, refer to 6,500 l tank (1,700 US gal.)

For dimensions, refer to 3,750 l tank (1,000 US gal.)

For dimensions, refer to 4,800 l tank (1,250 US gal.)

---

**Carat XL underground tank**

**Suitable for vehicle / lorry-bearing**

- Suitable for lorry-bearing up to 12 t (26456 lbs)
- Can be mounted in groundwater
- Lower weight than concrete and steel
- Various connection surfaces
- DN 100 (4”), DN 150 (6”), DN 200 (8”)
- Investment security thanks to a 15-year warranty

**Dimensions**

<table>
<thead>
<tr>
<th>Volume</th>
<th>Width B</th>
<th>Length L</th>
<th>Height H</th>
<th>Height Htot</th>
<th>Height of dome shaft H</th>
<th>Internal Ø of dome shaft</th>
<th>Weight</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,500 l (2,240 US gal.)</td>
<td>2040 mm (6’ 8”)</td>
<td>3100 mm (10’ 2”)</td>
<td>2085 mm (6’ 10”)</td>
<td>2695 mm (8’ 10”)</td>
<td>610 mm (24”)</td>
<td>650 mm (25.6”)</td>
<td>380 kg</td>
<td>370005</td>
</tr>
<tr>
<td>10,000 l (2,640 US gal.)</td>
<td>2240 mm (7’ 4”)</td>
<td>3220 mm (10’ 6”)</td>
<td>2285 mm (7’ 6”)</td>
<td>2895 mm (9’ 6”)</td>
<td>610 mm (24”)</td>
<td>650 mm (25.6”)</td>
<td>455 kg</td>
<td>370006</td>
</tr>
</tbody>
</table>

**Technical data**

- Max. earth covering (without groundwater, vehicle loading): 2000 mm (6’ 7”)
- Max. axle load: 8 t (17637 lbs)
- Max. total weight: 12 t (26456 lbs)
- Earth covering required for vehicle loading: 800 – 2000 mm (31.5” – 6’ 7”)
- Groundwater stability: up to middle of tank
- Earth covering required for groundwater stability: 800 – 1800 mm (31.5” – 5’ 11”)
- Connection: DN 100 (4”) / DN 150 (6”) / DN 200 (8”) on top

Illustration shows 10,000 l (2,640 US gal.) tank with telescopic dome shaft with cast iron lid, suitable for vehicle loading.
Platin flat rainwater tank

Choose your required size

Dimensions

<table>
<thead>
<tr>
<th>Volume</th>
<th>Width B</th>
<th>Length L</th>
<th>Height H</th>
<th>Height H₂</th>
<th>Height dome shaft H₃</th>
<th>Inner Ø dome shaft H₄</th>
<th>Weight</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,500 l</td>
<td>1,250 mm</td>
<td>2,100 mm</td>
<td>700 mm</td>
<td>1,055 mm</td>
<td>355 mm</td>
<td>650 mm</td>
<td>82 kg</td>
<td>390000</td>
</tr>
<tr>
<td>(400 US gal)</td>
<td>(4' 1&quot;)</td>
<td>(6' 11&quot;)</td>
<td>(2' 11&quot;)</td>
<td>(3' 4&quot;)</td>
<td>(12.4&quot;)</td>
<td>(26.4&quot;)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3,000 l</td>
<td>2,000 mm</td>
<td>2,450 mm</td>
<td>755 mm</td>
<td>1,050 mm</td>
<td>355 mm</td>
<td>650 mm</td>
<td>180 kg</td>
<td>390001</td>
</tr>
<tr>
<td>(800 US gal)</td>
<td>(6' 1&quot;)</td>
<td>(8' 0&quot;)</td>
<td>(2' 5&quot;)</td>
<td>(3' 5&quot;)</td>
<td>(12.4&quot;)</td>
<td>(26.4&quot;)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5,000 l</td>
<td>2,500 mm</td>
<td>2,900 mm</td>
<td>800 mm</td>
<td>1,005 mm</td>
<td>355 mm</td>
<td>650 mm</td>
<td>290 kg</td>
<td>390002</td>
</tr>
<tr>
<td>(1,325 US gal)</td>
<td>(8' 2&quot;)</td>
<td>(9' 6&quot;)</td>
<td>(2' 7&quot;)</td>
<td>(3' 3&quot;)</td>
<td>(12.4&quot;)</td>
<td>(26.4&quot;)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7,500 l</td>
<td>3,000 mm</td>
<td>3,600 mm</td>
<td>855 mm</td>
<td>1,055 mm</td>
<td>355 mm</td>
<td>650 mm</td>
<td>380 kg</td>
<td>390005</td>
</tr>
<tr>
<td>(1,980 US gal)</td>
<td>(10' 0&quot;)</td>
<td>(11' 9&quot;)</td>
<td>(2' 9&quot;)</td>
<td>(3' 5&quot;)</td>
<td>(12.4&quot;)</td>
<td>(26.4&quot;)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10,000 l</td>
<td>3,500 mm</td>
<td>4,150 mm</td>
<td>1,000 mm</td>
<td>1,255 mm</td>
<td>355 mm</td>
<td>650 mm</td>
<td>550 kg</td>
<td>390006</td>
</tr>
<tr>
<td>(2,650 US gal)</td>
<td>(11' 6&quot;)</td>
<td>(13' 6&quot;)</td>
<td>(3' 3&quot;)</td>
<td>(4' 1&quot;)</td>
<td>(12.4&quot;)</td>
<td>(26.4&quot;)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15,000 l</td>
<td>4,000 mm</td>
<td>4,700 mm</td>
<td>1,255 mm</td>
<td>1,505 mm</td>
<td>355 mm</td>
<td>650 mm</td>
<td>830 kg</td>
<td>390007</td>
</tr>
<tr>
<td>(3,960 US gal)</td>
<td>(13' 1&quot;)</td>
<td>(15' 6&quot;)</td>
<td>(4' 1&quot;)</td>
<td>(5' 1&quot;)</td>
<td>(12.4&quot;)</td>
<td>(26.4&quot;)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Technical data

Max. earth covering (without groundwater, vehicle loading): 1,200 mm (3' 11")
Max. axle load: 2,210 kg (4,850 lbs)
Max. vehicle weight: 3,410 kg (7,516 lbs)
Earth covering required for groundwater stability: up to tank shoulder
Groundwater stability: 700 – 1,200 mm (27.6" – 48")
Connection: 4 x DN 100 (4")

80%* less digging compared with a cylindric cistern*. Save more than 150* wheelbarrow loads of soil*.

Illustration shows 1,500 l (400 US gal.) tank with Mini dome shaft suitable for pedestrian loading (for accessories, see page 35).

* Based on a vertical, cylindric cistern with a usable volume of 3,000 l (800 US gal.), a height of 1.90 m (6' 3") and a diameter of 2.20 m (7' 3") Calculation of excavation is under consideration of a ditch bottom of 10 cm (4"), a sidewise distance of 50 cm (19.7") and a slope with 45° gradient according to DIN 4124.
Infiltration connecting piece 1000
DN 600 (24”)
With DN 200 (8”) pipe connections, incl. profile seal, length 1000 mm (3’ 3”), 750 mm (2’ 5”), 500 mm (1’ 9’’)
Order no. 371015

Tank dome Mini
- Suitable for Carat S
- Weight: 11 kg (24 lbs)
- For especially flat installation
- Incl. 3 edge seals

Tank dome Micro
- Suitable for Carat S
- Weight: 7 kg (15 lbs)
- Including green lid
- For shallow excavation
- Earth cover only 90 mm (3.5’’)

Tank dome Maxi
- Suitable for Carat S
- Weight: 15 kg (33 lbs)
- For large earth coverings (loading capacity)
- Incl. 5 edge seals

Tanks and covers

Select your desired tank cover

Infiltration connecting piece 1000
DN 600 (24”)
With DN 200 (8”) contact surface, incl. profile seal, length 1000 mm (3’ 3”), 750 mm (2’ 5”), 500 mm (1’ 9’’)
Order no. 371015

Extension for shafts and domes
- Weight: 6 kg (13 lbs)
- The earth covering can be raised 300 mm (11.8”) using the spacer

Order no. 371003

Telescopic dome shaft Mini
- With PP cover
- Suitable for pedestrian loading
- Weight: 9 kg (20 lbs)
- Adjustable earth covering across upper tank surface

Order no. 371040

Telescopic dome shaft Maxi
- With PP cover
- Suitable for pedestrian loading
- Weight: 15 kg (33 lbs)
- Adjustable earth covering across upper tank surface

Order no. 371011

Telescopic dome shaft suitable for pedestrian loading

Order no. 371017

Telescopic dome shaft suitable for vehicle/lorry-bearing

Order no. 371022

Telescopic dome shaft cast iron
- Suitable for vehicle loading – with childproof cast iron cover up to 3.5 to 7716 lbs
- Weight: 55 kg (121 lbs)
- Adjustable earth covering across upper tank surface

Order no. 371020

Tank dome Mini

Order no. 371041

Tank dome Maxi

Order no. 371019

Telescopic dome shaft cast iron

Order no. 371021

Order no. 371003

Telescopic dome shaft suitable for vehicle/lorry-bearing

Order no. 371021

Order no. 371009

Tank dome Micro

Order no. 371009

Tank dome Maxi

Order no. 371015

Telescopic dome shaft cast iron

Order no. 371020

Telescopic dome shaft suitable for pedestrian loading

Order no. 371017

Telescopic dome shaft suitable for vehicle/lorry-bearing

Order no. 371022

Telescopic dome shaft suitable for pedestrian loading

Order no. 371040

Telescopic dome shaft Maxi

Order no. 371010

Telescopic dome shaft suitable for vehicle loading – with childproof cast iron cover up to 3.5 to 7716 lbs

Order no. 371020

Telescopic dome shaft suitable for vehicle loading

Order no. 371021

Tank dome Micro

Order no. 371009

Tank dome Maxi

Order no. 371019

Telescopic dome shaft Maxi

Order no. 371011

Telescopic dome shaft suitable for pedestrian loading

Order no. 371040

Telescopic dome shaft suitable for vehicle/lorry-bearing

Order no. 371021

Telescopic dome shaft suitable for vehicle loading – with childproof cast iron cover up to 3.5 to 7716 lbs

Order no. 371020

Telescopic dome shaft suitable for vehicle loading

Order no. 371021

Telescopic dome shaft suitable for pedestrian loading

Order no. 371017

Telescopic dome shaft suitable for vehicle/lorry-bearing

Order no. 371022

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Order no. 371020

Telescopic dome shaft suitable for vehicle loading

Order no. 371021

Telescopic dome shaft suitable for pedestrian loading

Order no. 371040

Telescopic dome shaft Maxi

Order no. 371011

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Order no. 371020

Telescopic dome shaft suitable for vehicle loading

Order no. 371021

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Order no. 371040

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Telescopic dome shaft Maxi

Order no. 371011

Telescopic dome shaft suitable for vehicle loading – with childproof cast iron cover up to 3.5 to 7716 lbs

Order no. 371020

Telescopic dome shaft suitable for vehicle loading

Order no. 371021
Filter package – connection DN 100 (4”)

**Filter package 1**  
Garden use – for improving the water quality  
With filter package 1, the basic Carat S tank (with external filter) can also be used for household applications (WC and washing machine).

**Scope of supply:**  
- Inflow stilling system for controlling the water inflow  
- Overflow siphon  
- Rodent guard  

DN 100 (4”)  
Order no. 342001

>> Maximum flow rate of 5.5 l/s

**Filter package 2**  
For use in the home and garden – 100 % water yield  
Universal filter 3 integrated in the basic Carat S tank with 100 % water yield. Filter package 2 is ideal if you need a water yield of 100 %, or if the tank’s overflow is connected to an infiltration plant rather than the sewer network.

**Scope of supply:**  
- Internal Universal filter 3  
- Inflow stilling system for controlling the water inflow  
- Overflow siphon and rodent guard  
- Spannfix pipe connection sleeve  

DN 100 (4”)  
Order no. 342002

>> Maximum flow rate of 5.5 l/s

**Filter package 3**  
For use in the home and garden – the self-cleaning design  
The self-cleaning Optimax-Pro filter can be integrated into the basic Carat tank. The convenient, low maintenance solution with self-cleaning filter and > 95 % water yield. Can also be fitted with Opticlean® cleaning unit. Tank and filter overflow are connected to the sewer network with this filter package.

**Scope of supply:**  
- Internal Optimax-Pro (self cleaning) filter  
- Inflow stilling system for controlling the water inflow  
- Overflow siphon with rodent guard function  
- Spannfix pipe connection sleeve  

DN 100 (4”)  
Order no. 342005

Cleaning unit  
Connection 19 mm (3/4”), delivery without hose  
Order no. 340040

>> Maximum flow rate of 5.5 l/s

XL filter package – connection DN 150 (6”)

**XL filter package 1**  
Garden use – for improving the water quality  
With filter package 1, the basic Carat XL tank (with external filter) can also be used for household applications (WC and washing machine).

**Scope of supply:**  
- Inflow stilling system for controlling the water inflow  
- Overflow siphon  
- Rodent guard  

DN 150 (6”)  
Order no. 342040

>> Maximum flow rate of 16 l/s

**XL filter package 2**  
For use in the home and garden – 100 % water yield  
Universal filter 3 XL integrated in the basic Carat XL tank with 100 % water yield. Filter package 2 is ideal if you need a water yield of 100 %, or if the tank’s overflow is connected to an infiltration plant rather than the sewer network.

**Scope of supply:**  
- Internal Universal filter 3 XL  
- Inflow stilling system for controlling the water inflow  
- Overflow siphon and rodent guard  
- Spannfix pipe connection sleeve  

DN 150 (6”)  
Order no. 342041

>> Maximum flow rate of 16 l/s

**XL filter package 3**  
For use in the home and garden – the self-cleaning design  
The self-cleaning Optimax-Pro XL filter can be integrated into the basic Carat XL tank. The convenient, low maintenance solution with self-cleaning filter and > 95 % water yield. Can also be fitted with Opticlean® cleaning unit. Tank and filter overflow are connected to the sewer network with this filter package.

**Scope of supply:**  
- Internal Optimax-Pro XL (self cleaning) filter  
- Inflow stilling system for controlling the water inflow  
- Overflow siphon with rodent guard function  
- Spannfix pipe connection sleeve  

DN 150 (6”)  
Order no. 342042

Cleaning unit  
Connection 19 mm (3/4”), delivery without hose  
Order no. 342117

>> Maximum flow rate of 16 l/s
Filter packages
Select your required filtration

Platin – connection DN 100 (4")

Platin filter package 1
To be combined with external filter
With filter package 1, the Platin basic tank (with external filter) is also suitable for household use (WC and washing machine).

Scope of supply:
- Inflow stilling system for controlling the water inflow
- Overflow siphon
- Rodent guard

DN 100 (4")
Order no. 342001

Platin filter package 2
Garden and home use – 100 % water yield
Filter basket for Platin basic tank with 100 % water yield. Filter package 2 is ideal if you want to achieve a water yield of 100 % or connect the tank’s overflow to an infiltration system rather than the sewer.

Scope of supply:
- Filter basket
- Crossbar and chain suspension
- Overflow siphon
- Rodent guard

DN 100 (4")
Order no. 342006

Platin filter package 3
Garden and home use – the self-cleaning model
Minimax-Pro filter (self-cleaning) for Platin basic tank. The convenient solution that requires minimum maintenance thanks to a self-cleaning filter with over 95 % water yield. Can also be fitted with the internal cleaning unit. With this filter package, the tank and filter overflows are connected to the sewer system.

Scope of supply:
- Minimax-Pro internal filter (patented)
- Inflow stilling system for controlling the water inflow
- Overflow siphon with rodent guard function
- Spannfix pipe connection sleeve

DN 100 (4")
Order no. 342003

Cleaning unit
Connection 19 mm (¾"), delivery without hose
Order no. 340040

Pump package
Select your required pump and accessories

Pump package garden Jet
The good value complete solution.
- Garden jet pump 700 (page 72)
- Suction set with 12.5 m (41') suction hose
- Water hose connection internal and external
Order no. 342010

Pump package garden Comfort
Improved operating convenience through automatic pump control.
- Integra INOX Submersible and suction pump (page 73)
- Floating water extraction unit
- PE pressure max. 10 m (32' 10")
- Water hose connection internal and external
Order no. 342011

Pump package house Eco-Plus
The good value complete solution.
- Drinking water feeding console including domestic waterworks KSB-Superinox 15/4 (page 72)
- Floating water extraction unit
- Wall duct DN 100 (4")
- Labelling set
- PE suction pipe 12 m (39' 4") (not shown)
Order no. 342014

Pump package house Professional
In-house drinking water feeding using the latest modular technology with microprocessor control and digital fill level display.
- Drinking water feeding module Aqua Center Silentio including domestic waterworks and submersible pump 300 A (page 73)
- Floating water extraction unit
- Internal cleaning unit
- Automatic filter cleaning unit (not shown)
- Reversible flow filter
- Wall duct DN 150 (6")
- Labelling set
- PE suction pipe 12 m (39' 4") (not shown)
Order no. 342016

Pump package house Silentio Press
In-house drinking water intake with submersible pump. Ideal when there are larger distances (15 m (49' 3'')) between the tank and the domestic waterworks.
- Drinking water feeding module Aqua Center-Silento Press including domestic waterworks and submersible pump 300 A (page 73)
- Internal cleaning unit
- Automatic filter cleaning unit (not shown)
- Reversible flow filter
- Wall duct DN 150 (6")
- Labelling set
- 25 m (82') special suction and pressure hose 25 mm (1")
Order no. 342015
Carat XXL underground Tank
The new dimension

4 x 56,000 l (14,794 US gal.), Semmering (Austria)

2 x 76,000 l (20,077 US gal.), Gernsheim (Germany)

2 x 56,000 l (14,794 US gal.), Bad Sauerbrunn (Austria)

4 x 26,000 l (6,869 US gal.), Münchenstein (Switzerland)

2 x 76,000 l (20,077 US gal.), Gernsheim (Germany)

26,000 l (6,869 US gal.), Baden-Baden (Germany)

2 x 76,000 l (20,077 US gal.), Gernsheim (Germany)
Carat XXL underground tank
The perfect combination of flexibility and stability

Available with a second tank dome as an option
On request the Carat XXL can be fitted with an additional dome. This increases the tank volume by 6,000 l (1,550 US gal.).

Lighter than concrete or steel
In spite of its large capacity, the Carat XXL has all the advantages of a plastic tank: its comparatively low weight reduces both logistics and installation costs.

Up to 76,000 l (20,050 US gal.) without abnormal load vehicle
Because the tank makes maximum use of the 2.5 m (8’ 3”) wide loading space, a 76,000 l (20,050 US gal.) tank can be transported without the need for an abnormal load vehicle. Lifting straps are included in the delivery.

Suitable for lorry-bearing up to 40 to
The GRAF Carat XXL underground tank can be driven over by vehicles of up to 40 to with an earth covering of 1000 mm (3’ 3”).

Flexible connection up to DN 300 (12”)
The rotating tank dome is easy to align with the connecting pipe. The telescopic tilting dome shaft makes it easy to align the tank with the level of the ground. Connecting faces up to DN 200 (8”) are already fitted as standard. If necessary the Carat XXL can be fitted with connectors up to DN 300 (12”), either on the tank dome 1 or on the tank end 2.

Flexible in use
- Rainwater tank
- Retention cistern
- Firefighting water tank
- Drinking water reservoir
- Wastewater tank see GRAF wastewater catalogue >>

Delivery time by arrangement. Shipping costs on request
Carat XXL underground rainwater tank
Up to 122,000 l (32,230 US gal.)

Suitable for vehicle/lorry-bearing 1)

Suitable for lorry-bearing up to 40 to
Can be installed in groundwater
Lower weight than concrete and steel
Various connection surfaces
DN 100 (4”), DN 150 (6”), DN 200 (8”)
Larger connectors up to DN 300 (12”) also available
Volumes up to 76,000 l (20,077 US gal.) can be transported without abnormal load vehicle

Scope of supply: Carat XXL underground rainwater tank with Maxi dome
Also available as a fire fighting water tank

Technical data

Max. earth covering: 1500 mm (4' 11”)
Max. axle load: 8 to (17637 lbs)
Max. vehicle weight: 3.5 to (7716 lbs) with 2.2 to cast iron cover,
40 to (88183 lbs) with telescopic dome shaft lorry

Earth covering required for groundwater stability: up to the middle of the tank

Volume Length L Inner Ø of tank dome Weight Order no.

<table>
<thead>
<tr>
<th>Volume</th>
<th>Length L</th>
<th>Inner Ø of tank dome</th>
<th>Weight</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>16,000 l</td>
<td>4660 mm</td>
<td>650 mm (2’ 2”)</td>
<td>805 kg (1775 lbs)</td>
<td>380001</td>
</tr>
<tr>
<td>22,000 l</td>
<td>6445 mm</td>
<td>650 mm (2’ 2”)</td>
<td>1015 kg (2235 lbs)</td>
<td>380002</td>
</tr>
<tr>
<td>26,000 l</td>
<td>7045 mm</td>
<td>650 mm (2’ 2”)</td>
<td>1150 kg (2535 lbs)</td>
<td>380003</td>
</tr>
<tr>
<td>32,000 l</td>
<td>8530 mm</td>
<td>650 mm (2’ 2”)</td>
<td>1360 kg (3008 lbs)</td>
<td>380004</td>
</tr>
<tr>
<td>36,000 l</td>
<td>9430 mm</td>
<td>650 mm (2’ 2”)</td>
<td>1495 kg (3300 lbs)</td>
<td>380005</td>
</tr>
<tr>
<td>42,000 l</td>
<td>10915 mm</td>
<td>650 mm (2’ 2”)</td>
<td>1705 kg (3759 lbs)</td>
<td>380006</td>
</tr>
<tr>
<td>46,000 l</td>
<td>11815 mm</td>
<td>650 mm (2’ 2”)</td>
<td>1840 kg (4072 lbs)</td>
<td>380007</td>
</tr>
<tr>
<td>52,000 l</td>
<td>13500 mm</td>
<td>650 mm (2’ 2”)</td>
<td>2005 kg (4420 lbs)</td>
<td>380008</td>
</tr>
<tr>
<td>56,000 l</td>
<td>14200 mm</td>
<td>650 mm (2’ 2”)</td>
<td>2185 kg (4812 lbs)</td>
<td>380009</td>
</tr>
<tr>
<td>62,000 l</td>
<td>15865 mm</td>
<td>650 mm (2’ 2”)</td>
<td>2395 kg (5280 lbs)</td>
<td>380010</td>
</tr>
<tr>
<td>66,000 l</td>
<td>16695 mm</td>
<td>650 mm (2’ 2”)</td>
<td>2530 kg (5578 lbs)</td>
<td>380011</td>
</tr>
<tr>
<td>72,000 l</td>
<td>18070 mm</td>
<td>650 mm (2’ 2”)</td>
<td>2920 kg (6464 lbs)</td>
<td>380012</td>
</tr>
<tr>
<td>76,000 l</td>
<td>18720 mm</td>
<td>650 mm (2’ 2”)</td>
<td>3285 kg (7218 lbs)</td>
<td>380013</td>
</tr>
<tr>
<td>82,000 l</td>
<td>20455 mm</td>
<td>650 mm (2’ 2”)</td>
<td>3585 kg (7807 lbs)</td>
<td>380014</td>
</tr>
<tr>
<td>86,000 l</td>
<td>21355 mm</td>
<td>650 mm (2’ 2”)</td>
<td>3920 kg (8623 lbs)</td>
<td>380015</td>
</tr>
<tr>
<td>92,000 l</td>
<td>22840 mm</td>
<td>650 mm (2’ 2”)</td>
<td>4390 kg (9662 lbs)</td>
<td>380016</td>
</tr>
<tr>
<td>96,000 l</td>
<td>23740 mm</td>
<td>650 mm (2’ 2”)</td>
<td>4765 kg (10500 lbs)</td>
<td>380017</td>
</tr>
<tr>
<td>102,000 l</td>
<td>25245 mm</td>
<td>650 mm (2’ 2”)</td>
<td>5175 kg (11416 lbs)</td>
<td>380018</td>
</tr>
<tr>
<td>106,000 l</td>
<td>26125 mm</td>
<td>650 mm (2’ 2”)</td>
<td>5590 kg (12318 lbs)</td>
<td>380019</td>
</tr>
<tr>
<td>112,000 l</td>
<td>27660 mm</td>
<td>650 mm (2’ 2”)</td>
<td>5990 kg (13251 lbs)</td>
<td>380020</td>
</tr>
<tr>
<td>116,000 l</td>
<td>28510 mm</td>
<td>650 mm (2’ 2”)</td>
<td>6420 kg (14210 lbs)</td>
<td>380021</td>
</tr>
<tr>
<td>122,000 l</td>
<td>29995 mm</td>
<td>650 mm (2’ 2”)</td>
<td>6965 kg (15343 lbs)</td>
<td>380022</td>
</tr>
</tbody>
</table>

*With a second tank dome
*In conjunction with vehicle- or lorry-bearing cover
Optimax XXL filter

- Water yield of over 95%
- Self-cleaning filter principle
- Stainless steel filter insert with 0.35 mm (0.01") mesh
- Maximum flow rate of 100 l/s (27 US gal.) with connection DN 300 (12") and 200 l/s (54 US gal.) with DN 400 (16")
- Patented filter technology
- Larger connections on request
- Includes cleaning unit
- Height loss of just 45 mm (1.75") between inlet and dirty water outlet

Webcode G2207

Example installation*

Illustration shows Optimax XXL with DN 300 (12") connection kit

Add-on components

Overflow siphon

<table>
<thead>
<tr>
<th>Connections</th>
<th>Width W</th>
<th>Length L</th>
<th>Height H</th>
<th>Weight</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 (6&quot;)</td>
<td>275 mm</td>
<td>430 mm</td>
<td>355 mm</td>
<td>2 kg</td>
<td>330450</td>
</tr>
<tr>
<td>200 (8&quot;)</td>
<td>275 mm</td>
<td>560 mm</td>
<td>455 mm</td>
<td>3 kg</td>
<td>330451</td>
</tr>
<tr>
<td>300 (12&quot;)</td>
<td>400 mm</td>
<td>885 mm</td>
<td>680 mm</td>
<td>12 kg</td>
<td>330452</td>
</tr>
</tbody>
</table>

Note: With fitting

Steady inflow pot

<table>
<thead>
<tr>
<th>Connections</th>
<th>Width W</th>
<th>Length L</th>
<th>Height H</th>
<th>Weight</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 (6&quot;)</td>
<td>200 mm</td>
<td>400 mm</td>
<td>180 mm</td>
<td>1.5 kg</td>
<td>330453</td>
</tr>
<tr>
<td>200 (8&quot;)/300 (12&quot;)</td>
<td>400 mm</td>
<td>750 mm</td>
<td>377 mm (14.8&quot;)</td>
<td>9 kg (20 lbs)</td>
<td>330454</td>
</tr>
</tbody>
</table>

| DN 150 (6") |
| DN 200 (8")/DN 300 (12") |

Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection kit DN 300</td>
<td>340097</td>
</tr>
<tr>
<td>Connection kit DN 400</td>
<td>340099</td>
</tr>
<tr>
<td>Connection kit US 300 (12&quot;)</td>
<td>340098</td>
</tr>
<tr>
<td>Connection kit US 400 (16&quot;)</td>
<td>340100</td>
</tr>
</tbody>
</table>

Purified water to tank

How the filter cleaning unit works

Optimax XXL external filter

<table>
<thead>
<tr>
<th>Width</th>
<th>Length</th>
<th>Height</th>
<th>Weight</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>655 mm (26.6&quot;)</td>
<td>1225 mm (48&quot;)</td>
<td>770 mm (30.3&quot;)</td>
<td>75 kg (165 lbs)</td>
<td>340096</td>
</tr>
</tbody>
</table>

Includes filter cleaning unit

Consists of four adjustable flat jet nozzles with a very powerful water jet to clean the filter screen. This means fewer maintenance intervals. Automatic control possible with Aqua-Center-Silentio.

Stainless steel filter insert with 0.35 mm (0.01") mesh

Maximum flow rate of 100 l/s (27 US gal.) with connection DN 300 (12") and 200 l/s (54 US gal.) with DN 400 (16")

Patented filter technology

Includes cleaning unit

Height loss of just 45 mm (1.75") between inlet and dirty water outlet

Webcode G2207

Simplified representation

Example installation*

Illustration shows Optimax XXL with DN 300 (12") connection kit
Aqua-Center-Silentio Connect

Rain manager with dual pump system and feeder pump for use in large-scale rainwater systems.

- Powerful dual pump system with adjustable switching points
- Feeder pump with float switch for feeding rainwater
- Demand-driven drinking water intake in accordance with DIN EN 1717 with automatic closing function should faults occur (network failure)
- Stagnation protection for mains water pipe and optional auto-drain function for preventing stagnation in the feed tank
- Intelligent connect control with touchscreen to control and monitor the system functions
- Operating status can be accessed remotely using an app on a smartphone, tablet or PC
- Water detector for monitoring humidity in the technical room provided as standard

Optional accessories:

Auto-drain function
As stagnation protection for feed tank
Order no. 355040

Fill level display in rainwater tank
Comprising 50 m (164') submersible pressure sensor including software updates
Order no. 355095

Rainwater stop – backflow inhibitor
In deeper installations, rain manager acts as water level
Order no. 353011

50 l (13 US gal) diaphragm expansion tank
Including set of connections, diameter 450 mm (16.1"), length 500 mm (19.7")
Order no. 355036

100 l (26 US gal) diaphragm expansion tank
Including set of connections, diameter 500 mm (19.7"), length 670 mm (26.4")
Order no. 355009

Properties

<table>
<thead>
<tr>
<th>Properties</th>
<th>Aqua-Center-Silentio Connect</th>
<th>Feeder pump</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump</td>
<td>6/40</td>
<td>8/40</td>
</tr>
<tr>
<td>Rated power</td>
<td>2 x 700 W</td>
<td>2 x 880 W</td>
</tr>
<tr>
<td>Operating pressure</td>
<td>4.6 bar</td>
<td>4.2 bar</td>
</tr>
<tr>
<td>Delivery height</td>
<td>16.1&quot;</td>
<td>17.7&quot;</td>
</tr>
<tr>
<td>Max. flow rate</td>
<td>16 m³/h</td>
<td>9 m³/h</td>
</tr>
<tr>
<td>Max. suction lift/suction length</td>
<td>see 100 A feeder pump</td>
<td></td>
</tr>
<tr>
<td>Operating pressure gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeder pump included</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking water feed</td>
<td>100 l (27 US gal)</td>
<td>100 l (27 US gal)</td>
</tr>
<tr>
<td>Demand-driven drinking water intake with automatic closing function on power failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manual switchover to drinking water possible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stagnation protection for drinking water pipe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overflow according to DIN EN 1717</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligent connect control with APP link</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optional electronic level measurement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fault indicator</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dimensions

- Width: 600 mm (23.6")
- Height: 1560 mm - 1560 mm (5’ 1" - 5’ 1") (adjustable)
- Depth: 630 mm (24.8")
- Weight: 100 kg (220 lbs) 100 kg (220 lbs) 100 kg (220 lbs) 11 kg (24 lbs)

Webcode G1312

Tank sizes and prices on request.
GRAF tank systems
For special requirements

Herkules-Tank
For overground and underground installation

- Three ways to use it
- Can be installed in groundwater up to top edge of tank
- Very good value for money

Herkules-Tank 1,600 l (423 US gal.)
(extendable)
Order no. 320001
Webcode G1301

Herkules-Tank-Set
DN 100 (4") extension set(s) included
3,200 l (846 US gal.) Order no. 211001
4,800 l (1,269 US gal.) Order no. 211002
Webcode G1302

GRAF-Tex geotextile
For one Herkules Infiltration Tank
Order no. 369015

Herkules Infiltration tank
Geotextile required (Accessories)
Incl. support pipe
Order no. 200201
Webcode G1309

Technical data
- Capacity 1,600 l (423 US gal.)
- Max. Ø 1350 mm (4' 4")
- Height 1600 mm (5' 3")
- Material Fibre-glass reinforced PP (UV stable and 100% recyclable)
- Weight approx. 60 kg (132 lbs)
- Connections: each 2 x DN 70 (2.8"), DN 100 (4") and DN 200 (8")

Practical advantages of Herkules
- Ease of transport: Each half of the Herkules Tank only weighs 30 kg (66 lbs). This allows easy transport and manual installation. The tank halves fit through any doorway (80 cm (31.5") width and above).
- Easy to install
- Several tanks can be combined

Rainwater harvesting in style
For more information about Rainwater harvesting in style, ask for our catalogue.
Herkules complete packages
For the garden or home

Herkules complete garden package
- Very convenient to use
- Draw off water like you do power from a socket. Pump switches on and off automatically
- Convenient water extraction with water hose connection (compatible with standard hose coupling)
- Pot filter reliably holds back contaminants

Scope of supply
1. Herkules tank(s)
2. Pot filter
3. Extension set (2 or more tanks)
4. Submersible pressure pump 1000 E
5. Support pipe(s) for below ground installation
6. DN 200 (8”) dome(s)
7. External water hose connection
8. 10 m (33’) pressure hose 25 mm (1”)

Herkules complete home package
- Low-cost complete solution
- High-quality filter technology for excellent water quality
- Drinking water automatically supplied to tank when necessary

Scope of supply
1. Herkules tanks
2. Universal filter 3 external
3. Extension set(s)
4. Drinking water feed with level gauge
5. Domestic water control unit, centrifugal 4/1000 with pump wall bracket
6. Suction fitting without suction hose
7. DN 200 (8”) domes
8. Labelling set
9. Support pipes for installation

Herkules-Tank
Three installation options

1. Above ground
   You can simply set up the Herkules tank in the garden. The tried-and-tested GRAF downpipe filters provide a reliable connection.

2. Underground
   By using accessory parts, the Herkules tank can also be installed underground. The tank can be installed in groundwater up to the top edge.

3. As a cellar tank
   You can also install the Herkules tank in the cellar. Its tank halves will fit through any standard door of 80 cm (31.5”) and above.

Accessories
- Interconnect Pipe Set* (without cut-out tool)
  - DN 70 (2.8”) Order no. 202029
  - DN 100 (4”) Order no. 202028
  *Consists of special seals
- Cut-out tool (with pilot drill)
  - DN 70 (2.8”) Order no. 202002
  - DN 100 (4”) Order no. 202003
- Tank dome (with telescopic end 1 m (3’ 3”) to be cut on demand)
  - DN 200 (8”) Order no. 322026
- Floating suction fitting with fine filter
  Includes: Backflow preventer with 25 mm (1”) hose connector, fine filter basket with 1.2 mm (0.05”) mesh width, float ball with eye and ring, without hose
  Order no. 330054
- Support pipe (for underground installation)
  - DN 150 (6”) Order no. 322014
- Support pipe (for above-ground installation)
  - DN 200 (8”) Order no. 322026
- Tap with tank screw
  Connection for Herkules, tap and garden tank, size 19 mm (¾”), incl. teflon sealing tape
  Order no. 330044
- Water butt connection kit
  Kit for complete water spring and water level display for above-ground rainwater storage tanks. Consists of 2.15 m (7”) flexible hose, extraction tap and various connection options. Suited to all storage tanks.
  Order no. 220015
Saphir universal shaft

Applications

- Numerous connection faces for easy installation
- Telescopic / tilting dome shaft for easy alignment with ground surface
- Easy to transport thanks to low weight
- With lifting eyes for easy handling and setting down in the trench
- With profile seal for easy assembly of telescopic dome shaft
- Sealed up to ground level
- Groundwater stable up to a certain height from the bottom of the tank
- Unique stability and precision fit of components

Extension for shafts and domes

- Lift station shaft
- Separating tank
- Inspection shaft
- Regulator drain shaft

Dimensions

<table>
<thead>
<tr>
<th>Volume (l / US gal.)</th>
<th>Ø (mm / in.)</th>
<th>Height H (mm / in.)</th>
<th>Height Htot (mm / in.)</th>
<th>Height of dome shaft (mm / in.)</th>
<th>Inner Ø of dome shaft (mm / in.)</th>
<th>Groundwater stable from the bottom of the tank (mm / in.)</th>
<th>Weight (kg / lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 l (160 US gal.)</td>
<td>1125 mm (44 3/8&quot;)</td>
<td>985 mm (38 5/16&quot;)</td>
<td>1045 mm (41 1/8&quot;)</td>
<td>60 mm (2 3/8&quot;)</td>
<td>645 mm (25 1/4&quot;)</td>
<td>410 mm (16 1/8&quot;)</td>
<td>27 kg (59.5 lbs)</td>
</tr>
<tr>
<td>900 l (240 US gal.)</td>
<td>1555 mm (61&quot;)</td>
<td>1265 mm (49 5/8&quot;)</td>
<td>1345 mm (53&quot;)</td>
<td>80 mm (3.15&quot;)</td>
<td>645 mm (25 1/4&quot;)</td>
<td>430 mm (17&quot;)</td>
<td>47 kg (103.6 lbs)</td>
</tr>
<tr>
<td>1,200 l (320 US gal.)</td>
<td>1555 mm (61&quot;)</td>
<td>1550 mm (61&quot;)</td>
<td>1670 mm (65 5/8&quot;)</td>
<td>80 mm (3.15&quot;)</td>
<td>645 mm (25 1/4&quot;)</td>
<td>550 mm (21.6&quot;)</td>
<td>58 kg (127.9 lbs)</td>
</tr>
</tbody>
</table>

Technical data

- Max. earth covering (without groundwater, vehicle loading): 1200 mm (3' 11")
- Max. axle load: 2,750 (6000 lbs)
- Max. vehicle weight: 3,510 (7716 lbs)
- Earth covering required for vehicle loading: 400 – 1000 mm (15.7” – 3’ 3”)
- Groundwater stability:
  - 600 l (160 US gal.): up to a height of 43 cm (17") from bottom of the tank
  - 900 l (240 US gal.): up to a height of 43 cm (17") from bottom of the tank
  - 1,200 l (320 US gal.): up to a height of 55 cm (21.6") from bottom of the tank
- Earth covering required for groundwater stability: 300 – 600 mm (11.8” – 23.6”)
- Connection: DN 100 (4") / DN 150 (6")

1,000 l (270 US gal.) underground tank

Underground tank suitable for pedestrian loading, 1,000 l (264 US gal.) produced in one without seams, incl. PE cover.

Order no. 371003

 Shaft extension

For 1,000 l (264 US gal.) tank, Ø 620 mm (24.4”), 700 mm (27.6”) high, can be shortened

Order no. 202097

Technical data

- Length: 1395 mm (54 1/2")
- Width: 920 mm (36 1/8")
- Height: 1000 mm (39.4")
- Weight: 60 kg (132 lbs)
The ideal filter for every requirement

### Internal filter
For use in the tank

<table>
<thead>
<tr>
<th>Properties</th>
<th>Universal filter 3</th>
<th>Universal filter 3 XL</th>
<th>Minimax-Pro filter</th>
<th>Optimax-Pro filter</th>
<th>Optimax-Pro XL filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed in</td>
<td>Tank dome Carat</td>
<td>Tank dome Carat</td>
<td>Tank dome Carat</td>
<td>Tank dome Carat</td>
<td>Tank dome Carat</td>
</tr>
<tr>
<td>Suitable for infiltration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low maintenance, self-cleaning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleaning unit as an option</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max flow rate l/s</td>
<td>16 l/s</td>
<td>29.5 l/s</td>
<td>29.5 l/s</td>
<td>16 l/s</td>
<td>5.5 l/s</td>
</tr>
<tr>
<td>Material of filter insert</td>
<td>Plastic</td>
<td>Stainless steel</td>
<td>Stainless steel</td>
<td>Stainless steel</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Mesh width</td>
<td>0.35 mm (0.01&quot;)</td>
<td>0.75 mm (0.03&quot;)</td>
<td>0.35 mm (0.01&quot;)</td>
<td>0.35 mm (0.01&quot;)</td>
<td>0.5 mm (0.02&quot;)</td>
</tr>
<tr>
<td>Water yield with normal rain</td>
<td>100%</td>
<td>100%</td>
<td>99%</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>with heavy rain</td>
<td>100%</td>
<td>100%</td>
<td>over 95%</td>
<td>over 95%</td>
<td>over 95%</td>
</tr>
<tr>
<td>Filter basket volume</td>
<td>17 l (4.5 US gal.)</td>
<td>17 l (4.5 US gal.)</td>
<td>20 l (5.3 US gal.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Measurements**
- Offset height between inlet & outlet: 275 mm (10.8")
- Length: 570 mm (22.4")
- Width: 570 mm (22.4")
- Height: 485 mm (19")
- Connections: DN 100 (4")
- Weight: 4.3 kg (9.5 lbs)

**Page** Page 58

### External filter
in plastic shaft

<table>
<thead>
<tr>
<th>Properties</th>
<th>Universal filter 3 external</th>
<th>Universal-Industrial filter 3 external</th>
<th>Optimax-Industrial filter external</th>
<th>Optimax filter external</th>
<th>Minimax filter external</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed in</td>
<td>Ground</td>
<td>Ground</td>
<td>Ground</td>
<td>Ground</td>
<td>Ground</td>
</tr>
<tr>
<td>Suitable for infiltration</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Loading capacity pedestrian loading</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>vehicle loading</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Low maintenance, self-cleaning</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Cleaning unit as an option</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Max flow rate l/s</td>
<td>16 l/s</td>
<td>29.5 l/s</td>
<td>29.5 l/s</td>
<td>16 l/s</td>
<td>5.5 l/s</td>
</tr>
<tr>
<td>Material of filter insert</td>
<td>Plastic</td>
<td>Stainless steel</td>
<td>Stainless steel</td>
<td>Stainless steel</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Mesh width</td>
<td>0.35 mm (0.01&quot;)</td>
<td>0.75 mm (0.03&quot;)</td>
<td>0.35 mm (0.01&quot;)</td>
<td>0.35 mm (0.01&quot;)</td>
<td>0.5 mm (0.02&quot;)</td>
</tr>
<tr>
<td>Water yield with normal rain</td>
<td>100%</td>
<td>100%</td>
<td>99%</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>with heavy rain</td>
<td>100%</td>
<td>100%</td>
<td>over 95%</td>
<td>over 95%</td>
<td>over 95%</td>
</tr>
<tr>
<td>Filter basket volume</td>
<td>15 l (4.0 US gal.)</td>
<td>25 l (6.6 US gal.)</td>
<td>29 l (7.8 US gal.)</td>
<td>32 l (8.8 US gal.)</td>
<td>55 l (14.7 US gal.)</td>
</tr>
</tbody>
</table>

**Measurements**
- Offset height between inlet & outlet: 720 mm (28.3")
- Length over Connections: 1140 mm (45")
- Diameter: 550 mm (21.7")
- Height: 660 mm (26")
- Connections: DN 150 (6")
- Weight: 11 kg (24 lbs)

**Page** Page 62

### Drainstar filter external

<table>
<thead>
<tr>
<th>Properties</th>
<th>Drainstar filter external</th>
<th>Setting shaft filter</th>
<th>Pot filter</th>
<th>Infiltration filter shaft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed in</td>
<td>Ground</td>
<td>Ground</td>
<td>Ground</td>
<td>Ground</td>
</tr>
<tr>
<td>Suitable for infiltration</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Loading capacity pedestrian loading</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>vehicle loading</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Low maintenance, self-cleaning</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Cleaning unit as an option</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Max flow rate l/s</td>
<td>16 l/s</td>
<td>16 l/s</td>
<td>5.5 l/s</td>
<td>16 l/s</td>
</tr>
<tr>
<td>Material of filter insert</td>
<td>Plastic</td>
<td>Plastic</td>
<td>Filter mat</td>
<td>Stainless steel/Plastic</td>
</tr>
<tr>
<td>Mesh width</td>
<td>0.35 mm (0.01&quot;)</td>
<td>0.35 mm (0.01&quot;)</td>
<td>0.10 mm (0.004&quot;)</td>
<td>0.35 mm (0.01&quot;)</td>
</tr>
<tr>
<td>Water yield with normal rain</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>with heavy rain</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Filter basket volume</td>
<td>15 l (4.0 US gal.)</td>
<td>17 l (4.5 US gal.)</td>
<td>20 l (5.3 US gal.)</td>
<td>20 l (5.3 US gal.)</td>
</tr>
</tbody>
</table>

**Measurements**
- Offset height between inlet & outlet: 270 mm (10.6")
- Length over Connections: 760 mm (30")
- Diameter: 550 mm (21.7")
- Height: 600 mm (23.6")
- Connections: DN 100 (4")
- Weight: 11 kg (24 lbs)

**Page** Page 65
**Universal filter 3 Internal / XL Internal**

100% water yield

**Advantages**
- Allows up to 100% water yield
- Space-saving filter technology inside the tank
- The filter housing can be easily removed without tools
- Ideally suited when connecting the tank to a soakaway
- 275 mm (10.8”) offset height between inlet and outlet
- Maximum flow rate of 5.5 l/s with connections DN 100 (4”) and 16 l/sec. with DN 150 (6”)
- Emergency overflow available
- Sieve set mesh width 0.35 mm (0.01”)

Universal filter 3 Internal
DN 100 (4”)
Order no. 340022

Universal filter 3 XL Internal
DN 150 (6”)
Order no. 340107

**Accessories**
- Quick assembly sleeve Spannfix
  
  Patented (Page 80)
  
  Order no. 340056

**Replacement filter basket**
Filter basket with practical lift-out device
Order no. 340056

**Connecting dimensions for telescopic dome shaft**
For Universal filter 3 Internal for Carat S

<table>
<thead>
<tr>
<th>Telescopic dome shaft</th>
<th>Inlet</th>
<th>Tank overflow</th>
<th>Emergency overflow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini DN 100 (4”)</td>
<td>385 – 585 mm (15.2” – 23”)</td>
<td>660 – 860 mm (26” – 33.9”)</td>
<td>385 – 585 mm (15.2” – 23”)</td>
</tr>
<tr>
<td>Mini DN 150 (6”)</td>
<td>360 – 560 mm (14.2” – 22”)</td>
<td>635 – 835 mm (25” – 33.2”)</td>
<td>360 – 560 mm (14.2” – 22”)</td>
</tr>
<tr>
<td>Maxi DN 100 (4”)</td>
<td>385 – 685 mm (15.2” – 27”)</td>
<td>660 – 960 mm (26” – 37.8”)</td>
<td>385 – 685 mm (15.2” – 27”)</td>
</tr>
<tr>
<td>Maxi DN 150 (6”)</td>
<td>360 – 660 mm (14.2” – 26”)</td>
<td>635 – 935 mm (25” – 36.8”)</td>
<td>360 – 660 mm (14.2” – 26”)</td>
</tr>
</tbody>
</table>

All dimensions are calculated middle of connection until earth top edge

**Minimax-Pro filter, self-cleaning**

Minimum height loss, maximum water yield!

**Advantages**
- Water yield of over 95%
- Self-cleaning stainless steel filter insert with mesh width of 0.35 mm (0.01”)
- Compact filter technology integrated in the tank
- Filter housing can be removed for tank inspection without tools
- Transparent cover for easier inspection of filter
- DN 100 (4”) connections
- Optional internal cleaning unit
- Just 10 mm (0.4”) height offset between inlet and outlet (with optional curved outlet – 80 mm (3.1”) height offset)
- Maximum flow rate of 5.5 l/s

Minimax-Pro internal filter (patented)
Just 10 mm (0.4”) height offset between inlet and outlet
Order no. 340093

Quick assembly sleeve Spannfix
Patented (Page 80)
Order no. 340502

**Accessories**
- Internal cleaning unit
  Very powerful jet of water to clean the filter sieve, resulting in fewer maintenance intervals. Automatic control possible with the Aqua-Center-Silentio (page 71); 19 mm (3/4”) connection, supplied without hose
  Order no. 340040

**Connecting dimensions for telescopic dome shaft**
For Minimax-Pro filter internal (patented) for Platin flat tank

<table>
<thead>
<tr>
<th>Telescopic dome shaft</th>
<th>Inlet</th>
<th>Tank overflow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini DN 100 (4”)</td>
<td>325 – 525 mm (12.8 – 20.7”)</td>
<td>405 – 605 mm (15.9 – 23.8”)</td>
</tr>
<tr>
<td>Maxi DN 100 (4”)</td>
<td>325 – 525 mm (12.8 – 20.7”)</td>
<td>405 – 705 mm (15.9 – 27.8”)</td>
</tr>
</tbody>
</table>

All dimensions from middle of connection to ground level

**XL lift out device**
For a convenient withdrawal of filter cover and filter insert, length 505 mm (19.9”)
Order no. 330220

**Illustration shows Universal internal filter 3 DN 100 (4”)**
Optimax-Pro, self-cleaning filter
Efficient cleaning system with high water yield!

Advantages
- Provides over 95% water yield
- Low maintenance (self-cleaning)
- Space-saving filter technology inside the tank
- Filter housing can be easily removed without tools
- Transparent lid for filter visibility
-DN 100 (4”) connections
- Optional internal cleaning unit
- Low offset height of 165 mm (6.5”)
- Maximum flow rate of 5.5 l/s

Filter cartridge
Very smooth surface and, therefore, max. self cleaning, mesh width 0.35 mm (0.01”)

Quick assembly sleeve Spannfix
Patented (Page 80), DN 100 (4”)
Order no. 340040

Connecting dimensions for telescopic dome shaft
For Optimax-Pro filter Internal (patented) for Carat S

<table>
<thead>
<tr>
<th>Telescopic dome shaft</th>
<th>Inlet</th>
<th>Tank overflow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini DN100 (4”)</td>
<td>495 – 695 mm (19.5” – 27.2”)</td>
<td>660 – 860 mm (26.0” – 33.9”)</td>
</tr>
<tr>
<td>Maxi DN100 (4”)</td>
<td>495 – 795 mm (19.5” – 31.3”)</td>
<td>660 – 960 mm (26.0” – 37.8”)</td>
</tr>
</tbody>
</table>

Lift out device Plus
For a convenient withdrawal of filter cover and filter insert, length 505 mm (19.9”)
Order no. 330220

Optimax-Pro XL, self-cleaning filter
Efficient cleaning system with high water yield!

Advantages
- No external prefilter needed, so no additional cover visible
- High efficiency even in heavy rainfall
- Combination of more than one roof area possible
- Provides over 95% water yield
- Low maintenance (self-cleaning)
- Space-saving filter technology inside the tank
- Filter housing can be easily removed without tools
- Transparent lid for filter visibility
- Maximum flow rate of 16 l/s
- DN 150 (6”) connections
- Internal cleaning unit XL
- Low offset height of 165 mm (6.5”)
- Between inlet and outlet

Filter cartridge
Very smooth surface and, therefore, max. self cleaning, mesh width 0.35 mm (0.01”)

Quick assembly sleeve Spannfix
Patented (Page 80), DN 150 (6”)
Order no. 340117

Connecting dimensions for telescopic dome shaft
For Optimax-Pro XL filter Internal (patented) for Carat S

<table>
<thead>
<tr>
<th>Telescopic dome shaft</th>
<th>Inlet</th>
<th>Tank overflow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini DN150 (6”)</td>
<td>470 – 670 mm (18.5” – 26.4”)</td>
<td>635 – 835 mm (25.0” – 33.0”)</td>
</tr>
<tr>
<td>Maxi DN150 (6”)</td>
<td>470 – 770 mm (18.5” – 30.6”)</td>
<td>635 – 935 mm (25.0” – 30.7”)</td>
</tr>
</tbody>
</table>

Lift out device Plus
For a convenient withdrawal of filter cover and filter insert, length 505 mm (19.9”)
Order no. 330220
Universal filter 3 and Universal-Industrial filter 3
External filter technology, 100 % water yield

Universal filter 3 external
- 100 % water yield therefore ideal for smaller roof areas
- Filter insert mesh width 0.35 mm (0.01”)
- Continuously variable installation depth of 600 mm – 1050 mm (23.6” – 3’ 5”)
  using the telescopic dome shaft
- Lockable, childproof cover
- Flush with ground level
- Minimal height offset (270 mm (10.6”)) between the inlet and outlet
- Also suitable for infiltration and pond systems
- Maximum flow rate of 16 l/s

Optimax-Industrial filter external
- Maximum flow rate of 29.5 l/s
- Patented filter technology
- Smooth installation depths from 735 – 1320 mm (28.9” – 4’ 4”)
  using the telescopic dome shaft
- Only 224 mm (8.8”) height offset between the inlet and outlet

Universal-Industrial filter 3 external
- Maximum flow rate of 29.5 l/s
- Patented filter technology
- Smooth installation depths from 740 – 1270 mm (29.1” – 4’ 2”)
  using the telescopic dome shaft
- Only 230 mm (9”) height offset between the inlet and outlet

Optimax-Industrial filter external
- Accessory
  - External cleaning unit without hose
  - Order no. 340041

Accessories
- External cleaning unit
- Without hose
- Order no. 340041

Infiltration connecting piece 1000
DN 600 (24”)
With DN 200 (8”) contact surface, incl.
profile seal, length 1000 mm (3’ 3”),
750 mm (21.5”), 500 mm (19.7”)
Order no. 371015

Cleaned water
Dirty water
Emergency overflow to the sewer
Inlet
Outlet
Emergency overflow to the sewer
Cleaned water to the tank
Emergency overflow to the sewer
Inlet
Outlet
Emergency overflow to the sewer
Cleaned water to the tank
Emergency overflow to the sewer
Inlet
Outlet
Emergency overflow to the sewer
Cleaned water to the tank
Emergency overflow to the sewer

**Optimax- and Minimax filter external**

External filter technology, self-cleaning

- Provides over 95 % water yield
- Low maintenance as it is self cleaning
- Continuously variable installation depth of 580 – 1050 mm (22.8’ – 3’ 5”) using the telescopic dome shaft
- Minimal height offset (200 mm (8’)) between the inlet and outlet
- Optional with cleaning unit Opticlean
- Maximum flow rate of 16 l/s

**Optimax filter external suitable for pedestrian loading**

Order no. 340030

**Optimax filter external suitable for vehicle loading**

Order no. 340031

**Minimax filter external**

- Only 10 mm (0.4”) height offset between the inlet and outlet
- Filter insert mesh width 0.35 mm (0.01”)
- Continuously variable installation depth of 485 mm – 955 mm (19.1’ – 3’ 2”) using the telescopic dome shaft
- Standard 100 mm (4”) connections
- Optional with cleaning unit Miniclean
- Maximum flow rate of 5.5 l/s

**Minimax filter external suitable for pedestrian loading**

Order no. 340061

**Minimax filter external suitable for vehicle loading**

Order no. 340062

**Drainstar filter external**

External filter technology, 100 % water yield

- No height loss between inlet and outlet
- Filter insert mesh width 0.35 mm (0.01”)
- Continuously variable installation depth of 600 – 1050 mm (23.6’ – 3’ 5”) provided by telescopic dome shaft
- Sealed up to ground level
- Ideally suited to infiltration and pond systems
- Maximum flow rate of 5.5 l/s with DN 100 (4”) connection and 16 l/s with DN 150 (6”) connection
- DN 100 (4”) and DN 150 (6”) connections

**Drainstar filter external suitable for pedestrian loading**

With plastic cover, childproof

Order no. 340143

**Drainstar filter external suitable for vehicle loading**

With cast cover, class B

Order no. 340144

**Replacement filter basket**

Filter insert with practical lift-out device

Order no. 340524
**Settling filter shaft and pot filter**

**External filter technology**

**Infiltration filter shaft**

**External filter technology**

---

**Settling filter shaft**

- 3-stage cleaning process
  - Fine filter basket (0.35 mm mesh width)
  - Sedimentation zone
  - Immersion pipe as separator
- Continuously variable installation depth of 600 – 1500 mm (24" – 5' 11'') using the telescopic dome shaft diameter 400 mm (16'')
- Suitable for pedestrian loading with plastic cover, or suitable for vehicle loading with cast cover, class B
- Lockable childproof cover
- Sealed up to ground level
- Maximum flow rate of 16 l/s
- DN 150 connection (6'')

**Connecting dimensions**

<table>
<thead>
<tr>
<th>Inlet</th>
<th>DN 150 (6'')</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet</td>
<td>DN 150 (6'')</td>
</tr>
</tbody>
</table>

All dimensions are calculated from the middle of connection to the earth top edge.

**Infiltration filter shaft**

- 3-stage cleaning process
  - Coarse filter insert
  - Fine filter basket (0.35 mm mesh width)
  - Sedimentation zone
  - Immersion pipe as separator
- Continuously variable installation depth of 600 – 1500 mm (24" – 5' 11'') using the telescopic dome shaft diameter 400 mm (16'')
- Suitable for vehicle loading with cast cover, class B
- Lockable childproof cover
- Sealed up to ground level
- Maximum flow rate of 16 l/s
- DN 150 connection (6'')

**Connecting dimensions**

<table>
<thead>
<tr>
<th>Inlet</th>
<th>DN 150 (6'')</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet</td>
<td>DN 150 (6'')</td>
</tr>
</tbody>
</table>

All dimensions are calculated from the middle of connection to the earth top edge.

**Pot filter**

For installation at ground level (underground tank inflow) before the cistern. Good value alternative – suitable when only used for garden irrigation, ponds or infiltration. Connection: DN 100 (4''). Dimensions: 500 mm (19.7'') Ø, 340 mm (13.4'') high.

**Pot filter**

Order no. 340003

**Accessories**

**Replacement filter mats (2 units)**

Order no. 347030

---

**Settling filter shaft**

Order no. 340026

**Settling filter shaft**

Order no. 340027

---

**Connecting dimensions**

| Outlet | 288 mm (11.3'') |

All dimensions are calculated from the middle of connection to the earth top edge.

---

**Webcode**

G4401

---

**Connecting dimensions**

<table>
<thead>
<tr>
<th>Inlet</th>
<th>DN 150 (6'')</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet</td>
<td>DN 150 (6'')</td>
</tr>
<tr>
<td>275 - 725 mm (10.8&quot; - 2' 4.5'')</td>
<td></td>
</tr>
</tbody>
</table>

All dimensions are calculated from the middle of connection to the earth top edge.

---

**Pot filter**

Order no. 340003

**Accessories**

**Replacement filter mats (2 units)**

Order no. 347030

---

**Settling filter shaft**

Order no. 340026

**Settling filter shaft**

Order no. 340027

---

**Connecting dimensions**

<table>
<thead>
<tr>
<th>Inlet</th>
<th>DN 150 (6'')</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet</td>
<td>DN 150 (6'')</td>
</tr>
<tr>
<td>275 - 725 mm (10.8&quot; - 2' 4.5'')</td>
<td></td>
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</table>

All dimensions are calculated from the middle of connection to the earth top edge.

---

**Pot filter**

Order no. 340003

**Accessories**

**Replacement filter mats (2 units)**

Order no. 347030

---

**Webcode**

G4401

---

**Connecting dimensions**

<table>
<thead>
<tr>
<th>Inlet</th>
<th>DN 150 (6'')</th>
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</thead>
<tbody>
<tr>
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<td>275 - 725 mm (10.8&quot; - 2' 4.5'')</td>
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</tbody>
</table>

All dimensions are calculated from the middle of connection to the earth top edge.

---

**Pot filter**

Order no. 340003

**Accessories**

**Replacement filter mats (2 units)**

Order no. 347030

---

**Webcode**

G2206

---

**Connecting dimensions**

<table>
<thead>
<tr>
<th>Inlet</th>
<th>DN 150 (6'')</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet</td>
<td>DN 150 (6'')</td>
</tr>
<tr>
<td>750 mm (29.5'')</td>
<td></td>
</tr>
</tbody>
</table>

All dimensions are calculated from the middle of connection to the earth top edge.

---

**Infiltration filter shaft**

Suitable for vehicle loading

Order no. 340025

**Infiltration filter shaft**

Suitable for pedestrian loading

Order no. 340026

**Infiltration filter shaft**

Suitable for vehicle loading

Order no. 340027

---

**Connecting dimensions**

<table>
<thead>
<tr>
<th>Inlet</th>
<th>DN 100 (4'')/DN 150 (6'')</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet</td>
<td>DN 150 (6'')</td>
</tr>
<tr>
<td>275 - 725 mm (10.8&quot; - 2' 4.5'')</td>
<td></td>
</tr>
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</table>

All dimensions are calculated from the middle of connection to the earth top edge.

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**Infiltration filter shaft**

Suitable for vehicle loading

Order no. 340025

**Infiltration filter shaft**

Suitable for pedestrian loading

Order no. 340026

**Infiltration filter shaft**

Suitable for vehicle loading

Order no. 340027

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**Connecting dimensions**

<table>
<thead>
<tr>
<th>Inlet</th>
<th>DN 100 (4'')/DN 150 (6'')</th>
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<tbody>
<tr>
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All dimensions are calculated from the middle of connection to the earth top edge.

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**Infiltration filter shaft**

Order no. 340025

**Infiltration filter shaft**

Order no. 340026

**Infiltration filter shaft**

Order no. 340027

---

**Connecting dimensions**

<table>
<thead>
<tr>
<th>Inlet</th>
<th>DN 100 (4'')/DN 150 (6'')</th>
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<td>Outlet</td>
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**Infiltration filter shaft**

Order no. 340025

**Infiltration filter shaft**

Order no. 340026

**Infiltration filter shaft**

Order no. 340027

---

**Connecting dimensions**

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**Infiltration filter shaft**

Order no. 340025

**Infiltration filter shaft**

Order no. 340026

**Infiltration filter shaft**

Order no. 340027

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**Infiltration filter shaft**

Order no. 340025

**Infiltration filter shaft**

Order no. 340026

**Infiltration filter shaft**

Order no. 340027

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**Connecting dimensions**

<table>
<thead>
<tr>
<th>Inlet</th>
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</thead>
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All dimensions are calculated from the middle of connection to the earth top edge.

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**Infiltration filter shaft**

Order no. 340025

**Infiltration filter shaft**

Order no. 340026

**Infiltration filter shaft**

Order no. 340027

---

**Connecting dimensions**

<table>
<thead>
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<th>Inlet</th>
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</tbody>
</table>

All dimensions are calculated from the middle of connection to the earth top edge.
Domestic waterworks and pumps
The central system control for your rainwater harvesting system

Feeding console

Properties | Mains-on-tap | Drinking water feeding console | Aqua-Center-Silento
---|---|---|---
Nominal power | 660 W | 800 W | 660 W | 800 W
Operating noise | 55 dB(A) | 55 dB(A) | 49 dB(A) | 49 dB(A)
Protection class | IP 44 | IP 44 | IP 44 | IP 44
Operating pressure | 3.5 bar (51 psi) | 4.3 bar (62 psi) | 3.5 bar (51 psi) | 4.3 bar (62 psi)
Feed height | 35 m (114’ 9”) | 43 m (141’ 1”) | 35 m (114’ 9”) | 43 m (141’ 1”)
Max. delivery rate up to | 720 l/h | 3,600 l/h | 3,600 l/h | 4,200 l/h
Max. suction height | 6 m (19’ 8”) | 6 m (19’ 8”) | 6 m (19’ 8”) | 6 m (19’ 8”)
Max. suction length | 15 m (49’ 3”) | 15 m (49’ 3”) | 15 m (49’ 3”) | 15 m (49’ 3”)

Display operating pressure

Optionally available as Silentio Press package for distances of >/=15 m (49’ 3”) to the house

Drinking water feeding module

Volume | 10 l (2.6 US gal.) | 6.5 l (1.7 US gal.)
Manual switching to drinking water is possible ✔ ✔
Automatic water exchange basin ✔ ✔
Overflow corresponds to EN 1272 ✔ ✔

System control

Via float switch / level sensor ✔ ✔
Via electronic measurement ✔ ✔
Optional filter cleaning unit ✔
Display Operating error LED/Full text

Measurements

Width | 218 mm (8.6”) | 680 mm (26.8”) | 580 mm (22.8”)
Height | 277 mm (10.9”) | 760 mm (29.9”) | 530 mm (20.9”)
Weight | 0.6 kg (1.3 lbs) | 30 kg (66.2 lbs) | 34 kg (75 lbs)

Page in catalogue | Page 69 | Page 70 | Page 71

1. Permanent monitoring of your rainwater tank level
2. Upon reaching a critical fill level, the rainwater tank is topped up with a small quantity of mains water.

Advantages

- Excellent value for money
- Low mains water consumption
- Quick refill (up to 12 l (3 US gal./min))
- Extremely small housing – only 218 x 277 x 95 mm (8.6 x 10.9 x 3.7”)
- Virtually silent operation
- Incorporates AB Air Gap
- Solar capable using 12-volt technology
- Mains-on-tap® – the Plug & Play feed console. No calibration required. Tool-free plug connections

Mains-on-tap®
Excellent value for money

Mains-on-tap®
Scope of delivery: Mains-on-tap® incl. 12 volt wall power supply and level sensor
Order no. 350020
Webcode G3106
Drinking water feeding console
The cost-effective solution

The drinking water feeding console controls and regulates the entire water requirement and guarantees outstanding operational safety due to its reliable operation. The drinking water feeding console is safety-tested in accordance with DIN 1988 and EN1717. The floating switch-controlled monitoring of the fill level in the rainwater tank ensures that, in the event that the water level in the tank drops below the predefined minimum, drinking water is automatically provided from the in-house reservoir as needed. As soon as the cistern refills with rainwater, the drinking water feeding console switches back to rainwater operation.

**Advantages**
- Cost-effective in-house internal drinking water intake
- Floating switch-controlled

---

Aqua-Center-Silentio
The convenient control system

The GRAF Aqua-Center-Silentio is the central system control for your rainwater harvesting system. The microelectronics control and regulate the entire system. The pump and processor units are compactly installed with the intake container. The switching valve is sensor-controlled and opens the drinking water intake to the service water network when the water level is low in the cistern. The Aqua-Center-Silentio switches back to rainwater operation after even a brief rain shower. The Aqua-Center-Silentio is safety-tested in accordance with DIN 1988 and EN 1717 and can be installed above the backpressure level without problems. By connecting a lifting device in accordance with DIN 1988 and EN 1717 to the overflow, installation is also possible below the backpressure level. Please follow the installation instructions. A quiet, multi-stage, self-priming centrifugal pump with professional output works below the attractive soundproof hood. The Aqua-Center-Silentio comes ready to connect – this facilitates a simple and quick start-up.

**Advantages**
- With automatic filter cleaning unit as option
- Regular rinsing of the drinking water reservoir prevents microbial contamination
- Digital display of the operating status and the level in the cistern

---

**Display of the operating pressure**

The integrated dry running protection prevents damage in the event of a water shortage and guarantees safe operation.

**Suction pipe for the rainwater from the tank 25 mm (1")**

Closed three-way valve: reduces the risk of backpressure. Opens to provide drinking water when the water level is low.

**Emergency overflow DN 50 (2") in accordance with EN 1717**

---

**Aqua-Center-Silentio Press**
For greater distances between the tank and the house waterworks (>15 m (49' 3")) including submersible pump 300 A as a pressure pump (Page 73)

---

**Aqua-Center-Silentio Incl. switching valve sensor controlled and 20 m (65’ 6") data line**

**Pump**

<table>
<thead>
<tr>
<th>Order no.</th>
<th>350020</th>
</tr>
</thead>
<tbody>
<tr>
<td>15/4</td>
<td>350020</td>
</tr>
<tr>
<td>25/4</td>
<td>350020</td>
</tr>
</tbody>
</table>

**Order no. 3101**

**Accessories**
- Automatic filter cleaning unit
- Integrated emergency overflow corresponds to the new EN 1717 Part 5
- Complete soundproofing of all sources of noise for quiet operation
- High-quality, high-performance KSB redary pumps guarantee long, safe system operation

**Aqua-Center-Silentio Incl. switching valve sensor controlled and 20 m (65’ 6") connection cable**

**Pump**

<table>
<thead>
<tr>
<th>Order no.</th>
<th>350022</th>
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<tbody>
<tr>
<td>15/4</td>
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<tr>
<td>25/4</td>
<td>350022</td>
</tr>
</tbody>
</table>

**Order no. 3102**

**Display of the operating status and the level in the cistern**

**Automatic control of the Opticlean® filter cleaning unit, cleaning intervals can be programmed**

**Integrated dry running protection prevents damage in the event of a water shortage and guarantees safe operation**

**Operating pressure display**

When required, drinking water is drawn.
# Domestic waterworks and pumps

## KSB-Superinox 15/4 and 25/4
- Proven domestic water control unit of brand quality
- Stainless steel housing
- Extremely low running noise
- Multi-stage, self-priming centrifugal pump with energy-saving motor
- Pump switches on and off automatically via pressure and flow monitor
- Integrated dry running protection and backflow inhibitor
- Motor with lifetime lubrication and integrated circuit breaker
- IP 44

## Kreisel 4/1000
- Integrated prefilter
- Domestic water control unit of brand quality
- Water cooled motor (low noise)
- Energy saving motor
- Pump switches on and off automatically via pressure and flow monitor
- Integrated dry running protection and backflow inhibitor
- Incl. 25 mm (1") hose connection fitting
- LED display (incl. faults)

## Jet 700
- Integrated prefilter
- Self-priming jet pump
- Tried and tested pump technology of brand quality
- Water cooled motor (low noise)
- Made of high quality, corrosion free materials
- Incl. 25 mm (1") hose connection fitting
- Integrated backflow inhibitor

## Integra INOX
- Automatic submersible pump with integrated pressure and flow monitor
- Pump switches on and off automatically
- Tried and tested pump technology of brand quality
- Very low running noise
- Made of high quality, corrosion free materials
- Incl. 10 m (32’ 9.7") cable
- Incl. 32 mm (1¼") hose connection fitting

## Submerged pump 300 A
- Submersible pump with dry running protection and 3 impellers
- Tried and tested pump technology of brand quality
- Very low running noise
- Made of high quality, corrosion free materials
- Incl. 15 m (49’ 2.5") cable
- Incl. 19 mm (¾")/25 mm (1") hose connection fitting

## Submersible pump 1000 A
- Submersible pressure pump with integrated pressure and flow monitor
- Pump switches on and off automatically
- Tried and tested pump technology of brand quality
- Very low running noise
- Made of high quality, corrosion free materials
- Incl. 15 m (49’ 2.5") cable
- Integrated dry running protection
- Incl. 19 mm (¾")/25 mm (1") hose connection fitting

## Submersible pressure pump 1000 E
- Submersible pressure pump with integrated pressure and flow monitor
- Pump switches on and off automatically
- Tried and tested pump technology of brand quality
- Very low running noise
- Made of high quality, corrosion free materials
- Incl. 15 m (49’ 2.5") cable
- Integrated dry running protection
- Incl. 19 mm (¾")/25 mm (1") hose connection fitting

## Performance Data

<table>
<thead>
<tr>
<th></th>
<th>KSB Superinox 15/4</th>
<th>KSB Superinox 25/4</th>
<th>Kreisel 4/1000</th>
<th>Jet 700</th>
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<tbody>
<tr>
<td>Motor performance</td>
<td>0.66 kW</td>
<td>0.85 kW</td>
<td>0.85 kW</td>
<td>0.85 kW</td>
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<tr>
<td>Max. feed height</td>
<td>35 m (114’ 9&quot;)</td>
<td>43 m (141’ 1&quot;)</td>
<td>43 m (141’ 1&quot;)</td>
<td>43 m (141’ 1&quot;)</td>
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<tr>
<td>Max. operating pressure</td>
<td>4.2 bar</td>
<td>4.3 bar</td>
<td>4.3 bar</td>
<td>4.3 bar</td>
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<tr>
<td>Max. delivery rate</td>
<td>3,600 l/h (591 US gal.)</td>
<td>4,200 l/h (670 US gal.)</td>
<td>3,180 l/h (549 US gal.)</td>
<td>3,180 l/h (549 US gal.)</td>
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<tr>
<td>Max. suction height</td>
<td>8 m (26’ 2&quot;)</td>
<td>8 m (26’ 2&quot;)</td>
<td>8 m (26’ 2&quot;)</td>
<td>8 m (26’ 2&quot;)</td>
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<tr>
<td>Max. suction length</td>
<td>18 m (59’ 1&quot;)</td>
<td>15 m (49’ 2&quot;)</td>
<td>15 m (49’ 2&quot;)</td>
<td>15 m (49’ 2&quot;)</td>
</tr>
<tr>
<td>Max. submersion depth</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

## Accessories

### Pump wall console
- Suitable for pumps KSB-Superinox and Kreisel 4/1000, rubber mounting brackets reduce noise
- Order no. 355020

### Flexible armoured hose
- Latex core, stainless steel jacket, length 500 mm (19.7’), wear-free, rust-free, brass connections R 1"
- Order no. 330058

### Controlmatic
- Pump switching gear with dry running protection and pressure gauge, completely wired, 1"
- Order no. 355022

### Brio
- Pump switching gear with dry running protection, completely wired, 1", IP 65
- Order no. 355021

### Reversible flow filter
- For fine filtering of rainwater after the pump. This is sensible if the water is going to be used for the washing machine. The mesh width of the 0.2 mm (0.004") fine filter retains the smallest dirt particles.
- Connections R 1" AG. DVGW-tested fine filter in accordance with DIN. The sieve insert cleans easily in a few seconds, the sieve does not need to be replaced.
- Note: the rainwater must be fed through a prefilter (page 58 – 67) before it is fed into the tank.
- Order no. 331021
Accessories

Water hose connection / Water spring

External water hose connection
For the convenient extraction of rainwater in your garden. For jet pump and submersible pump, includes 2-way valve for standard hose coupling, 25 mm (1") hose connection.
- Made of extra-tough, weather-resistant plastic
- Makes an ideal extra extraction point for your underground tank
Order no. 202060

Internal water hose connection
For the convenient extraction of rainwater in your garden. Extract water directly from the tank. Easy to retrofit with Mini or Maxi telescopic dome shaft, includes valve for standard hose coupling, 25 mm (1") hose connection.
Order no. 375119

Stainless steel water spring
The elegant water spring point for the garden. Made of stainless steel, with chrome-plated drain cock.
- 19 mm (¾") connection with external thread in base.
Order no. 356020

Pump set
Complete set with heavy cast pillar
- 32 mm (1 ¼") connection, colour: green
Order no. 356010

Pump body
Top part only, 32 mm (1 ¼") connection, colour: green
Order no. 356503

Spare seal set
Piston sleeve, flange and valve seals, leather piston seal
Order no. 356502

Reducing adapter
32 mm (1 ¼") internal thread to 25 mm (1") external thread for connecting the manual pump to a GRAF underground tank with a suction fitting
Order no. 330025

Stainless steel water spring
The elegant water spring point for the garden. Made of stainless steel, with chrome-plated drain cock.
- 19 mm (¾") connection with external thread in base.
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Order no. 356502

Reducing adapter
32 mm (1 ¼") internal thread to 25 mm (1") external thread for connecting the manual pump to a GRAF underground tank with a suction fitting
Order no. 330025
Granite water spring

Practical and stylish

Granite water spring

- Elegant water spring in natural granite look
- Can be fitted with 19 mm (¾") hose connection at bottom
- Includes 19 mm (¾") chrome drain cock for convenient water extraction
- Easy assembly – pre-drilled holes in base
- Very UV-stable
- Made of high-quality, weather-resistant plastic

Granite water spring

Height 100 cm (3’ 3”), Column 13 x 13 cm (5.1 x 5.1”), Base 25 x 25 cm (9.8 x 9.8”), Weight 5 kg (11 lbs)

darkgranite Order no. 356025
lightgranite Order no. 356026

Wood water spring

Natural wood look

Wood water spring

- Elegant water spring in the shape of a natural wood peg
- Can be fitted with 19 mm (¾") hose connection at bottom
- Includes 19 mm (¾") chrome drain cock for convenient water extraction
- Easy assembly – pre-drilled holes in base
- Very UV-stable
- Made of high-quality, weather-resistant plastic

Wood water spring

Height 100 cm (3’ 3”), Column 13 x 13 cm (5.1 x 5.1”), Base 25 x 25 cm (9.8 x 9.8”), Weight 5 kg (11 lbs)
darkwood Order no. 356030
lightwood Order no. 356031

Rondo water spring unit

- Made of extra-tough, weather-resistant plastic
- The convenient water spring point for the garden
- Can be fitted with 19 mm (¾") hose connection at bottom
- Includes 19 mm (¾") chrome drain cock for convenient water extraction
- Easy assembly – pre-drilled holes in base

Rondo water spring

ø Column 12 cm (4.7”), Base 19 cm (7.5”), Height 90 cm (3’), Weight 3 kg (7 lbs)
stonegrey Order no. 356021
Stone fountain Venezia & Roma
Natural stone look

TIP Ideal as an additional extraction point for rainwater harvesting systems.

Venezia
- Height 90 cm (3'), Width 44 cm (17.3''), Depth 52 cm (20.5''), Height basin 15 cm (5.9''), Weight 8 kg (18 lbs)
- lightgranite  Order no. 356100
- redstone  Order no. 356101

Roma
- Height 100 cm (3' 3''), Width 54 cm, Depth 54 cm (21.3''), Height basin 25 cm (9.8''), Weight 10 kg (22 lbs)
- lightgranite  Order no. 356101
- redstone  Order no. 356103

Includes 19 mm (¾”) traditional look drain cock for convenient water extraction
Can be fitted with 19 mm (¾”) hose connection at bottom
Pre-assembled and ready to connect
Made of high-quality, weather-resistant plastic

Stone fountain Venezia & Roma

Accessories
For rainwater harvesting

Cut-out tool
- for pipe DN 50 (2”) with pilot drill Ø 58 mm (2.3”) 332004
- for pipe DN 70 (2.8”) with pilot drill Ø 83 mm (3.3”) 202002
- for pipe DN 100 (4”) with pilot drill Ø 124 mm (4.9”) 202003
- for pipe DN 150 (6”) with pilot drill Ø 175 mm (6.9”) 332002
- for pipe DN 200 (8”) with pilot drill Ø 210 mm (8.3”) 332005

Special seal
For connecting the tanks and further connections

<table>
<thead>
<tr>
<th>Pipe Ø</th>
<th>Borehole Ø</th>
<th>Tank wall thickness</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN 32 (1.25”)</td>
<td>46 mm (1.8”)</td>
<td>4 – 8 mm (0.15 – 0.3”)</td>
<td>black</td>
</tr>
<tr>
<td>DN 32 (1.25”)</td>
<td>45 mm (1.8”)</td>
<td>1 – 15 mm (0.04 – 0.6”)</td>
<td>black</td>
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<tr>
<td>DN 32 (1.25”)</td>
<td>58 mm (2.3”)</td>
<td>1 – 15 mm (0.04 – 0.6”)</td>
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<td>DN 50 (2”)</td>
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<td>black</td>
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<tr>
<td>DN 70 (2.8”)</td>
<td>83 mm (3.3”)</td>
<td>3 – 15 mm (0.12 – 0.6”)</td>
<td>grey</td>
</tr>
<tr>
<td>DN 70 (2.8”)</td>
<td>83 mm (3.3”)</td>
<td>4 – 6 mm (0.15 – 0.25”)</td>
<td>green</td>
</tr>
<tr>
<td>DN 70 (2.8”)</td>
<td>83 mm (3.3”)</td>
<td>9 - 16 mm (0.4 – 0.6”)</td>
<td>black</td>
</tr>
<tr>
<td>DN 100 (4”)</td>
<td>124 mm (4.9”)</td>
<td>4 – 6 mm (0.15 – 0.25”)</td>
<td>green</td>
</tr>
<tr>
<td>DN 100 (4”)</td>
<td>124 mm (4.9”)</td>
<td>9 – 13 mm (0.4 – 0.5”)</td>
<td>black</td>
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<tr>
<td>DN 100 (4”)</td>
<td>124 mm (4.9”)</td>
<td>14 – 17 mm (0.55 – 0.66”)</td>
<td>red</td>
</tr>
<tr>
<td>DN 100 (4”)</td>
<td>124 mm (4.9”)</td>
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<tr>
<td>DN 150 (6”)</td>
<td>175 mm (6.9”)</td>
<td>6 – 11 mm (0.25 – 0.4”)</td>
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Aqua-Control+
351021
The Aqua-Control+ informs on the exact water level in the tank and switches automatically to drinking water intake as needed. This ensures smooth operation of the entire plant. The pump is also protected against dry running. Digital display and adjustable intake amount in 1 % steps. Regular rinsing of the magnetic valve. 2-year warranty.
Price incl. brass magnetic valve and 20 m (65’ 7”) of data cable.

Digital fill level display
351013
Childproof 12-volt technology with 20 m (65’ 7”) of data line. Digital display in 1 % steps, any tank size up to 3 m (9’ 8”) high, simple assembly, also for retrofitting existing systems, 2-year warranty.

Wall duct DN 100 (4”)
- 1 x 25 mm (1”) + 2 x cable bushing 331002
- 1 x 32 mm (1 ¼”) + 2 x cable bushing 331003

Prevents thermal and moisture bridges to the wall ducts using a compression seal.
Bushing possibilities for intake pipe (only with DN 150 (6’’)), suction hose, sensor cable and pump or floating switch cable.

Cut-out tool
- for pipe DN 50 (2”) with pilot drill Ø 58 mm (2.3”) 332004
- for pipe DN 70 (2.8”) with pilot drill Ø 83 mm (3.3”) 202002
- for pipe DN 100 (4”) with pilot drill Ø 124 mm (4.9”) 202003
- for pipe DN 150 (6”) with pilot drill Ø 175 mm (6.9”) 332002
- for pipe DN 200 (8”) with pilot drill Ø 210 mm (8.3”) 332005

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For connecting the tanks and further connections

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</tbody>
</table>
**Accessories**

**For rainwater harvesting**

---

**Steady inflow pot**

So that small dirt particles can settle on the base of the tank, the filtered water is fed to the base of the tank through a steady inflow pot. Larger steady inflow pots.

- **Order no.**
  - DN 100 (4") | 330140
  - DN 150 (6") | 330053
  - DN 200 (8")/300 (12") | 330454

**Overflow siphon**

Used as an odour trap and for disposing of the floating layer. Larger overflow siphons.

- **Order no.**
  - DN 100 (4") | 330168
  - DN 150 (6") | 330450
  - DN 200 (8") | 330453
  - DN 300 (12") | 330452

**Protection against small animals**

Made of stainless steel for inserting into common plastic pipes. Prevents small animals getting into the system.

- **Order no.**
  - DN 100 (4") | 331008
  - DN 150 (6") | 331025

**Quick assembly sleeve Spannfix**

Patented, for connecting 2 DN 100 (4") pipes without sleeve (butt connection), no assembly tools required!

- **Order no.**
  - Double Spannfix
    - DN 100 (4") | 340502
  - Triple Spannfix
    - DN 100 (4") | 345399
    - DN 150 (6") | 340546

---

**PVC pressure hose**

Yellow with fabric lining, size 25 mm (1”)

- 5 m (16’ 4") | 330075
- 10 m (32’ 8") | 330076
- 15 m (49’ 2") | 330077
- 25 m (82’) | 330078

**PVC suction hose**

Grey with reinforcing ribs, size 25 mm (1”)

- 5 m (16’ 4") | 330188
- 10 m (32’ 8") | 330189
- 15 m (49’ 2") | 330190
- 25 m (82’) | 330191

**PVC suction hose**

Grey with reinforcing ribs, size 32 mm (1 ¼”)

- 5 m (16’ 4") | 330060
- 10 m (32’ 8") | 330062
- 15 m (49’ 2") | 330063
- 25 m (82’) | 330065

**Special suction and pressure hose**

PVC hose, with spring steel coil, high bending strength, max. pressure 10 bar, max. vacuum 0.9 bar, size 25 mm (1”), colour: black, price per metre

- 330624

**Suction set**

Scope of supply: suction basket, backpressure valve made of brass, suction hose with 1” curved hose nozzle, length: 250 cm (8’ 2”), can be shortened, for Carat S and Platin tanks

- 333002

**Suction set**

Suction hose with filter basket and backpressure valve, connection 25 mm (1”) outside thread

- 4 m (13’ 1”) | 355012
- 7 m (23’) | 355013

**PE suction pipe**

12 m (39’ 4”) long, for connecting between the tank connection and pump. With screw connection, 1” outside thread and M5 (90° flange) 1” outside thread

- 330882
Accessories
For rainwater harvesting

Floating water extraction unit
Scope of supply: floating balloon, non-return valve with stainless steel fine suction basket, suction hose with brass connecting thread
R 1½ inside thread, length 300 cm (9'9")

| Fine filter nominal width | 1.2 mm (0.047") | 330144 |
| Micro filter nominal width | 0.23 mm (0.01") | 33015 |

Floating suction fitting with fine filter
Includes: Non-return valve with 25 mm (1") hose connector, fine filter basket with mesh width of 1.2 mm (0.047"), float ball with eye and ring, without hose

Floating suction fitting with fine filter
with 50 mm (2") hose connection, fine filter basket with mesh width of 1.2 mm (0.047"), float ball with eye and ring, without hose and Non-return valve

Floating suction fitting with micro-fine filter
Includes: Backflow preventer with 25 mm (1") hose connector, micro-fine filter basket with mesh width of 0.2 mm (0.008"), float ball with eye and ring, without hose

Labelling set
for rainwater harvesting systems, consists of: engraved sign, adhesive foil, 10 m (33') film strip, adhesive label, pipe label

Drinking water reservoir
For underground installation

Illus. with telescopic dome shaft (see below for accessories)

- Tank made of sturdy, durable polyethylene
- Food-safe model with test certificate
- Easy to clean thanks to smooth inner surface

Carat drinking water reservoir
(without tank cover – see below)

<table>
<thead>
<tr>
<th>Volume (l)</th>
<th>Volume (US gal.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,700</td>
<td>720</td>
</tr>
<tr>
<td>3,750</td>
<td>1,000</td>
</tr>
<tr>
<td>4,800</td>
<td>1,260</td>
</tr>
<tr>
<td>6,500</td>
<td>1,700</td>
</tr>
<tr>
<td>10,000</td>
<td>2,640</td>
</tr>
</tbody>
</table>

Webcode G1311

Platin drinking water reservoir
(without tank cover – see below)

<table>
<thead>
<tr>
<th>Volume (l)</th>
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<tbody>
<tr>
<td>1,500</td>
<td>400</td>
<td>390600</td>
</tr>
<tr>
<td>3,000</td>
<td>800</td>
<td>390601</td>
</tr>
<tr>
<td>5,000</td>
<td>1,325</td>
<td>390602</td>
</tr>
</tbody>
</table>

Webcode G1310

1) Carat XL underground tank

Maxi drinking water telescopic dome shaft with regular cover and drinking water cover

- Smoothly adjustable for earth covering of 750 – 1,050 mm (2.9’ – 3.5’)(Carat)
of 455 – 755 mm (17.9’ – 29.7’)(Platin)
- With additional protective cover for drinking water
- Sealed up to ground level
- Lockable cover with special key
- Includes dome ventilation

Dimensions: Ø 730 mm (28.7")
Height: 1,200 – 1,500 mm (3’9” – 4’9”)
(telescopic)
Inlet/outlet: 51 mm (2") External thread
Overflow: DN 100 (4")

Spring water shaft 200 l (52 US gal.)
Incl. cover for pedestrian loading, colour grass-green
Order no. 381541

Webcode G19100

Spring water shaft
Variable installation depth thanks to telescopic dome shaft
To aerate and remove sand from spring water
Food-safe model with test certificate
Sealed up to ground level
Lockable cover with special key
Includes dome ventilation

Maxi telescopic dome shaft with regular cover and drinking water cover

Maxi drinking water telescopic dome shaft with cover
Order no. 381545

Labelling set
for rainwater harvesting systems, consists of: engraved sign, adhesive foil, 10 m (33') film strip, adhesive label, pipe label

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Overflow: DN 100 (4")

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Incl. cover for pedestrian loading, colour grass-green
Order no. 381541

Webcode G19100

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Sealed up to ground level
Lockable cover with special key
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Maxi telescopic dome shaft with regular cover and drinking water cover

Maxi drinking water telescopic dome shaft with cover
Order no. 381545

Labelling set
for rainwater harvesting systems, consists of: engraved sign, adhesive foil, 10 m (33') film strip, adhesive label, pipe label
Lifting choke shaft
With Platin flat tank

- Choke drain shaft with external access
- Platin tank 1,500 (400 US gal.) to 7,500 l (1,980 US gal.)
- Alternatively, also possible with other retention tanks
- Volume flow adjustable from 1.0 to 2.0 l/s
- Higher volume flows possible on request
- Factory-set volume flow if required

Platin flat tank
M 153 sedimentation tank

- Volume flow adjustable from 1.0 to 2.0 l/s, incl. 300 A submersible pump
- Higher volume flows possible on request
- Factory-set volume flow if required

Scope of supply
- Platin flat tank
- Calmed inlet digester
- Drain baffle

Not included in the scope of supply:
- Matching cover (must be ordered separately; see page 34/35)
- External filter (optional) from page 62

Order no. 340556

Platinum M 153 sedimentation tank
Including sedimentation accessory

Order no. 340028

Order no. 340029

Choke drain shaft suitable for pedestrian loading
Incl. drain regulator DN 100 (4"), emergency overflow, connector seal DN 100 (4") and telescopic dome shaft
Order no. 340028

Choke drain shaft suitable for vehicle loading
Incl. drain regulator DN 100 (4"), emergency overflow, connector seal DN 100 (4") and telescopic dome shaft
Order no. 340029

Due to national standards like German standard DWA-M 153 $t_{15,0} = 150 \text{ l/(s x ha)}$

Type D25: Inflow for 18 m³/(m² x h) and passage D = 0.35
Type D21: Inflow for 9 m³/(m² x h) and passage D = 0.2

Larger connecting areas on request!

Further sizes upon request!

Order no. 340556

Order no. 340028

Order no. 340029

Larger connecting areas on request!
Internationally proven: GRAF rainwater technology

Detached house, (Australia)

Residential building, British Columbia (Canada)

Industrial building, Neu-Isenburg (Germany)

Industriak building, Navata (Spain)

Library, Lincoln South (Australia)

Shopping centre, Geelong (Australia)

Detached house, Eichstetten (Germany)

Baseball Academy, Mexico City (Mexico)

Farm, Cross Plains TX, USA

Detached house, Barcelona (Spain)

Industrial building, Nova Scotia (Canada)

Sport-Base (Bulgaria)
Wastewater treatment solutions
For more information about our wastewater treatment solutions, ask for our catalogue.

Prices:
A price list with our export conditions is available on request.

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.

Over and above the statutory regulation, GRAF is lengthening the warranty period for a number of underground tanks. This relates to proper handling, assembly and installation in accordance with the installation manual, as well as leakproofness, usability and static safety. The prerequisites of this are competent assembly and operation in accordance with the requirements, namely the currently valid installation and operating instructions and the prevailing standards.

N.B. Protect tanks from frost when installed aboveground!
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.

For all our offers and conclusions of contract are only valid our General Terms and Conditions of Business dated 01/10/2012 which we will send to you on request.