Rainwater utilisation

Mini-wastewater treatment plants and cesspits

Living full of energy
We can make a significant contribution towards saving our water resources and also create ecologically and economically viable routines by using rainwater and implementing mini-wastewater treatment plants.
Rainwater is invaluable for man and nature

Rainwater can be used for a multitude of purposes - from watering lawns, hedges, shrubs and flowers, filling ponds, artificial streams and wells, to cleaning patios, roads, yards and steps around the house. The result: happy plants that thrive on the non-calciiferous water, enormous amounts of drinking water are saved and costs are reduced - a worthwhile result from an ecological and economic perspective.

Household wastewater with biological value

The objective of wastewater treatment is of course to return water to nature in a condition that will not add to environmental stresses. Household wastewater is generated in kitchens, bathrooms, toilets and by using washing machines - water that can be treated and returned to the natural water cycle. Its return - in the form of direct infusion into a body of water or via natural seepage - will always be of benefit to our environment.

Water: collection, storage, seepage, treatment actively alleviating stresses on the environment
Decades of experience

Roth uses one of the world’s largest blow moulding plant for their tank manufacture. The process allows the creation of tanks with a capacity of up to 10,000 litres in one piece. Roth can look back on decades of plastics processing and tank manufacture. The company uses that expertise to customise their products to fit the needs of their customers:

- optimised quality and wall thickness distribution is ensured by using latest process technology for machine control and monitoring.
- all tanks are made from a single piece to eliminate weak spots created by welded, screwed, or clamped joints

Premium quality polyethylene

Roth uses premium quality, high-density polyethylene (PE-HD) in all tank productions. The material offers numerous advantages over concrete, GRP or other plastics:

- high impact resistance
- mechanical load rating
- physiologically harmless
- completely smooth interiors
- homogeneous coloration of the material eliminates algae growth and prevents colour washout
- easy installation without the need for heavy-duty machinery
- easy to clean
- 100% watertight due to monolithic manufacture
- PE welding allows for the easy implementation of custom requests, e.g. the production of additional components

Superior quality

All tank manufacturing processes at Roth are subject to extremely high quality requirements. Each step - from material selection and procurement to final delivery - is monitored continuously, which means that every customer can expect to receive an excellent product.

10+10 Warranty

Roth Twinbloc® low-profile rainwater storage tanks are made from polyethylene with a high molecular weight, high-density and high rigidity. During manufacture, each tank undergoes extensive checks and inspections. We offer owners of our tanks:

- 10 years replacement guarantee (removal of the old and installation of the new tank)
- 10 years consequential damage cover for material and manufacturing defects attributable to us.

The warranty period begins with the initial commissioning of the tank, or latest twelve months after the date of manufacture.
Ultra-flat tank profile for additional installation benefits

The optimised, low-profile design of the Roth Twinbloc® storage tank offers considerable advantages in terms of installation. Compared with traditional rainwater tanks, excavation is reduced by up to 40%.

The tank’s ultra-low profile makes it a feasible solution in areas with high groundwater levels. The two parallel cylinders provide additional stability, because two tank chambers with smaller diameters are significantly more stable than a single chamber with a large diameter. This configuration allows unrestricted use of the area above ground (e.g. vehicle accessibility).

The tanks are available in the sizes 1500, 3500 and 5000 litres in their respective model ranges.

What are the advantages of Roth’s new tank concept

In combination with appropriate accessories, customers receive a complete rainwater utilisation system with a sophisticated tank concept. The perfectly coordinated components make installation quick and easy. Individual wishes and requirements to suit local conditions can be catered for with great flexibility. Roth offers a perfect solution for virtually any application purpose.

Vehicle-proof

Roth Twinbloc® low-profile storage tanks can withstand the weight of a vehicle. Make sure to order the vehicle-proof shaft cover from the accessory range. Compliance with the installation instructions for the vehicle-proof shaft cover is mandatory.

Tank coupling

A DN 100 UD pipe connected via the lower drill surfaces is used to link together several tanks. The Roth Coupling Kit includes an appropriately dimensioned hole saw and two DN 100 custom gaskets.
Rainwater utilisation
Roth Twinbloc® low-profile storage tank
for underground installation with integrated dome shaft

- Eco-friendly
- Cost-saving
- Effective
- Easy to install

Roth Twinbloc® low-profile rainwater tank
The basic Roth Twinbloc® tank is available in the sizes 1500, 3500 and 5000 litres. The PE tanks are resistant to underground stresses and vehicle-proof (see list of accessories for vehicle-proof cover). The dome shaft is included in the scope of delivery for every tank as standard. The dome shaft is inserted into the tank at the time of delivery, and can be adjusted to any excavation depth.

Two empty pipe sockets are provided on each end of the tank for the connection of supply lines.

Tank coupling
A DN 100 UD pipe connected via the lower drill surfaces is used to link together several tanks. The Roth Coupling Kit includes an appropriately dimensioned hole saw and two DN 100 custom gaskets.

### Roth Twinbloc® low-profile storage tank for underground installation

<table>
<thead>
<tr>
<th>Model</th>
<th>Tank dimensions (L x W x H)</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic tank 1500 litres, incl. shaft and cover</td>
<td>2350 x 1350 x 680 mm</td>
<td>80 kg</td>
<td>1135006122</td>
</tr>
<tr>
<td>Basic tank 3500 litres, incl. shaft and cover</td>
<td>2350 x 2300 x 975 mm</td>
<td>140 kg</td>
<td>1135005425</td>
</tr>
<tr>
<td>Basic tank 5000 litres, incl. shaft and cover</td>
<td>2430 x 2300 x 1350 mm</td>
<td>170 kg</td>
<td>1135005426</td>
</tr>
<tr>
<td>Basic tank 1500 litres with filter cage, incl. shaft and cover</td>
<td>2350 x 1350 x 680 mm</td>
<td>80 kg</td>
<td>1135006124</td>
</tr>
<tr>
<td>Basic tank 3500 litres with filter cage, incl. shaft and cover</td>
<td>2350 x 2300 x 975 mm</td>
<td>140 kg</td>
<td>1135005423</td>
</tr>
<tr>
<td>Basic tank 5000 litres with filter cage, incl. shaft and cover</td>
<td>2430 x 2300 x 1350 mm</td>
<td>170 kg</td>
<td>1135005424</td>
</tr>
</tbody>
</table>
**Basic tank**

The Roth Twinbloc® basic tank comes with an integrated dome-shaft system with a weight-resistant plastic cover, a DN 100 inlet pipe, a DN 100 overflow siphon and a barrier to keep small animals out. On the following pages you will find accessory products from the Roth rainwater range.

**Basic tank with filter cage**

The Roth Twinbloc® basic storage tank comes with a filter cage integrated in the dome shaft and an overflow siphon complete with barrier to keep small animals out.

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**Roth low-profile storage tank 1500 l**

max. 650

2300

600

**Roth low-profile storage tank 3500 l**

max. 700

95

2350

905

**Roth low-profile storage tank 5000 l**

max. 700

2430

1270

Note: 500 mm dome-shaft extension available as an accessory

Dimensions in mm
Accessories for Roth Twinbloc® low-profile storage tanks

**Vehicle-proof shaft cover**
(600 kg wheel load)
As replacement for the standard cover included in the scope of delivery. Load bearing capacity of 600 kg.
Mat. No. 1135005438

**Cartridge filter upgrade pack**
For installation in rainwater tanks for roof surfaces up to 150 m², stainless steel filter cartridge, height difference inflow and outflow 66 mm, mesh size 0.55 mm. Accessory for Roth low-profile tank dome shaft installation included.
Mat. No. 1135006450

**Shaft extension for Roth Twinbloc® low-profile storage tanks**
Shaft extension (length 500 mm) for the integrated shaft system. For tank installations at depths between 700 and 1200 mm. The shaft extension can be shortened.
Mat. No. 1135005436

**Garden filter set**
Filter cage with connection accessory for Roth low-profile tank dome shaft installation.
Mat. No. 1135006452
Price: €105.00

**Filter for roof surfaces up to 350 m²**
Filter for underground installation, complete with telescopic extension for roof surfaces up to 350 m². Stainless steel filter cartridge, DN 100 inlets and DN 125 outlet. Mesh size 0.55 mm.
Mat. No. 1135006453

**Inflow regulator upgrade pack**
For retrofitting the Roth Twinbloc® low-profile storage tank, comprising DN 100 UD pipe and inflow regulator.
Mat. No. 1135006673

**Connection set for the garden**
Comprising a small ground shaft with cover, a 1/2" hose connection, ball valve and a PE water pipe (length 10 m).
Mat. No. 1135006059

**Connection set**
For connecting the Twinbloc® low-profile storage tanks with DN 100 UD pipe, comprising hole saw and 2 DN 100 custom gaskets.
Mat. No. 1135002725

**Shaft extension for Roth Twinbloc® low-profile storage tanks**
Shaft extension (length 500 mm) for the integrated shaft system. For tank installations at depths between 700 and 1200 mm. The shaft extension can be shortened.
Mat. No. 1135005436

**Garden filter set**
Filter cage with connection accessory for Roth low-profile tank dome shaft installation.
Mat. No. 1135006452
Price: €105.00

**Filter for underground installation DN 100**
For the connection of multiple rainwater downpipes of DN 100 with extension pipe (500 mm). Mesh size 0.28 mm. The filter is suitable for roof surfaces up to 200 m².
Mat. No. 1135006654

**Inflow regulator upgrade pack**
For installation in rainwater tanks for roof surfaces up to 150 m²; stainless steel filter cartridge, height difference inflow and outflow 66 mm, mesh size 0.55 mm. Accessory for Roth low-profile tank dome shaft installation included.
Mat. No. 1135006450

**Garden filter set**
Filter cage with connection accessory for Roth low-profile tank dome shaft installation.
Mat. No. 1135006452
Price: €105.00

**Filter for roof surfaces up to 350 m²**
Filter for underground installation, complete with telescopic extension for roof surfaces up to 350 m². Stainless steel filter cartridge, DN 100 inlets and DN 125 outlet. Mesh size 0.55 mm.
Mat. No. 1135006453

**Inflow regulator upgrade pack**
For retrofitting the Roth Twinbloc® low-profile storage tank, comprising DN 100 UD pipe and inflow regulator.
Mat. No. 1135006673

**Connection set for the garden**
Comprising a small ground shaft with cover, a 1/2" hose connection, ball valve and a PE water pipe (length 10 m).
Mat. No. 1135006059

**Connection set**
For connecting the Twinbloc® low-profile storage tanks with DN 100 UD pipe, comprising hole saw and 2 DN 100 custom gaskets.
Mat. No. 1135002725
Immersion pump

Multi-speed, medium-cooled immersion pump for home and garden. The pump comes equipped with an integrated flow controller complete with electronic ON/OFF function as dry-run protection.

Mat. No. 1135006061

Roth ASPRI 15-4 domestic water supply system

Horizontal centrifuge pump (4-speed), self-priming, with integrated dry-run protection; power consumption 700 W, 1" connections, weight 11.4 kg, delivery head max. 64m, delivery volume 3.5 m³/h. Max. delivered volume 15 m³/h, max. suction line length 15 m; max. suction lift 3 m.

Mat. No. 1135002726

Combipress submersible pressure pump

Submersible pump with automatic switching unit KIT 02 and floating discharge. For use in conjunction with Roth RON backfeed module. Flow volume max. 6 m³/h, Delivery head max. 55 m, Max. final system pressure 10 bar.

Mat. No. 1135006054

Comfort backfeed module

Fully automated electronic control unit for on-demand drinking water backfeed; fill level indicator (cm), function monitoring with alarm function, periodic water exchange.

Mat. No. 1135006055

Rainwater pump module

Complete module with integrated ASPRI 15-4 domestic water supply system and backfeed directly to the pump without detour via the storage tank. Electronic level indicator.

Mat. No. 1135006049
Roth complete rainwater systems are available with an optional pump module featuring an integrated drinking water backfeed unit. These complete systems benefit from an ultra-flat profile and easy installation. Rainwater is collected on the roof and fed into the underground tank via a downpipe, where it is purified via the integrated fine-mesh filter and finally reaches the tank via a flow-controlled inflow pipe.

**Building technology pack I complete pack**

**Twinbloc®**
Underground rainwater tank with integrated telescopic dome shaft system and overflow siphon with barrier against small animals.

**Floating discharge**
Consisting of a floating ball, coarse suction filter with non-return valve, hose and clamp fitting for 1” PE water pipe.

**Integrated cartridge filter**
Filter for installation in rainwater tanks for roof areas up to 150 m², mesh size 0.55 mm.

**Pump module (optional)**
Complete module with integrated ASPRI 15-4 domestic water supply system and backfeed directly to the pump. Max. delivery head 4.2 m, max. suction line length 15 m, max. suction lift 3 m.

**Building technology pack I**

<table>
<thead>
<tr>
<th>Model</th>
<th>Tank dimensions (L x W x H)</th>
<th>Max. installation depth</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3500 litre with pump module</td>
<td>2350 x 2300 x 975 mm</td>
<td>1675 mm</td>
<td>140 kg</td>
<td>1135006032</td>
</tr>
<tr>
<td>5000 litre with pump module</td>
<td>2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>170 kg</td>
<td>1135006033</td>
</tr>
<tr>
<td>7000 litre with pump module</td>
<td>2 x 2350 x 2300 x 975 mm</td>
<td>1675 mm</td>
<td>2 x 140 kg</td>
<td>1135006034</td>
</tr>
<tr>
<td>10000 litre with pump module</td>
<td>2 x 2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>2 x 170 kg</td>
<td>1135006035</td>
</tr>
<tr>
<td>3500 litre without pump module</td>
<td>2350 x 2300 x 975 mm</td>
<td>1675 mm</td>
<td>140 kg</td>
<td>1135006048</td>
</tr>
<tr>
<td>5000 litre without pump module</td>
<td>2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>170 kg</td>
<td>1135006050</td>
</tr>
<tr>
<td>7000 litre without pump module</td>
<td>2 x 2350 x 2300 x 975 mm</td>
<td>1675 mm</td>
<td>2 x 140 kg</td>
<td>1135006051</td>
</tr>
<tr>
<td>10000 litre without pump module</td>
<td>2 x 2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>2 x 170 kg</td>
<td>1135006052</td>
</tr>
</tbody>
</table>

1) max. extension 500 mm
Building technology pack II
complete pack with pump inside the tank

The complete rainwater building technology pack II is suitable for use with larger distances between the tank and consumption points.

The submersible pressure pump Combipress with integrated floating discharge forms a complete water supply system in conjunction with the Roth backfeed module. The pump switches on automatically when a consumption point is opened. The pump automatically switches off as soon as all consumption points are closed. Max. delivery head is 55 m. Building technology pack II is particularly suitable for use with roof areas up to 350 m².

### Building technology complete package II

**Twinbloc®**
Underground rainwater storage tank with an ultra-flat profile and integrated telescopic dome shaft system, inflow regulator and overflow siphon with barrier against small animals.

**Combipress submersible pressure pump (optional)**
Pump with integrated floating discharge and automatic switching unit KIT 02 for in-tank installation. Max. delivery head 55 m.

**Filter for roof surfaces up to 350 m²**
Filter for underground installation with telescopic extension, for roof areas up to 350 m².
Mesh size 0,55 mm.

**Backfeed module (optional)**
Fully automatic electronic control unit for needs-relevant and DIN-conform drinking water backfeed directly to the pump, integrated level indicator.

### Building technology pack II

<table>
<thead>
<tr>
<th>Model</th>
<th>Tank dimensions (L x W x H)</th>
<th>Max. installation depth</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3500 litre with pump module and backfeed</td>
<td>2350 x 2300 x 975 mm</td>
<td>1675 mm</td>
<td>140 kg</td>
<td>1135006036</td>
</tr>
<tr>
<td>5000 litre with pump module and backfeed</td>
<td>2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>170 kg</td>
<td>1135006037</td>
</tr>
<tr>
<td>7000 litre with pump module and backfeed</td>
<td>2 x 2350 x 2300 x 975 mm</td>
<td>1675 mm</td>
<td>2 x 140 kg</td>
<td>1135006038</td>
</tr>
<tr>
<td>10000 litre with pump module and backfeed</td>
<td>2 x 2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>2 x 170 kg</td>
<td>1135006039</td>
</tr>
<tr>
<td>3500 litre without pump module and backfeed</td>
<td>2350 x 2300 x 975 mm</td>
<td>1675 mm</td>
<td>140 kg</td>
<td>1135006053</td>
</tr>
<tr>
<td>5000 litre without pump module and backfeed</td>
<td>2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>170 kg</td>
<td>1135006056</td>
</tr>
<tr>
<td>7000 litre without pump module and backfeed</td>
<td>2 x 2350 x 2300 x 975 mm</td>
<td>1675 mm</td>
<td>2 x 140 kg</td>
<td>1135006057</td>
</tr>
<tr>
<td>10000 litre without pump module and backfeed</td>
<td>2 x 2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>2 x 170 kg</td>
<td>1135006058</td>
</tr>
</tbody>
</table>

1) max. extension 500 mm
Roth garden packs ensure the water supply for your garden. The underground storage tanks come equipped with a dome shaft and weight-resistant plastic cover, as well as in integrated filter cage. The filter cage is removable and must be emptied by the system owner from time to time. The rainwater is supplied via a submersible pressure pump, which can be installed directly in the storage tank. An expansion of the garden system by retrofitting additional storage tanks is possible at any time.

**Garden pack**

**complete pack for watering the garden**

### Twinbloc®

Underground rainwater storage tank with an ultra-flat profile and integrated telescopic dome shaft system, filter cage and overflow siphon with barrier against small animals.

### Filter cage

The filter cage is integrated in the dome shaft and filters the collected rainwater. Mesh size 1 mm.

### Supply set for the garden

Consisting of a small ground shaft (Ø 15 cm) with cover (green). 1/2" hose connection for commercially available garden hoses.

### Immersion pump (optional)

The pump comes equipped with an integrated flow controller complete with electronic ON/OFF function as dry-run protection.

<table>
<thead>
<tr>
<th>Roth garden pack</th>
<th>Tank dimensions (L x W x H)</th>
<th>Max. installation depth</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500 litre <strong>with</strong> immersion pump</td>
<td>2350 x 1350 x 680 mm</td>
<td>1330 mm</td>
<td>80 kg</td>
<td>1135006126</td>
</tr>
<tr>
<td>3500 litre <strong>with</strong> immersion pump</td>
<td>2350 x 2300 x 975 mm</td>
<td>1675 mm</td>
<td>140 kg</td>
<td>1135006040</td>
</tr>
<tr>
<td>5000 litre <strong>with</strong> immersion pump</td>
<td>2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>170 kg</td>
<td>1135006041</td>
</tr>
<tr>
<td>7000 litre <strong>with</strong> immersion pump</td>
<td>2 x 2350 x 2300 x 975 mm</td>
<td>2 x 1675 mm</td>
<td>2 x 140 kg</td>
<td>1135006042</td>
</tr>
<tr>
<td>10000 litre <strong>with</strong> immersion pump</td>
<td>2 x 2430 x 2300 x 1350 mm</td>
<td>2 x 2050 mm</td>
<td>2 x 170 kg</td>
<td>1135006043</td>
</tr>
<tr>
<td>1500 litre <strong>without</strong> immersion pump</td>
<td>2350 x 1350 x 680 mm</td>
<td>1330 mm</td>
<td>80 kg</td>
<td>1135006125</td>
</tr>
<tr>
<td>3500 litre <strong>without</strong> immersion pump</td>
<td>2350 x 2300 x 975 mm</td>
<td>1675 mm</td>
<td>140 kg</td>
<td>1135006044</td>
</tr>
<tr>
<td>5000 litre <strong>without</strong> immersion pump</td>
<td>2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>170 kg</td>
<td>1135006045</td>
</tr>
<tr>
<td>7000 litre <strong>without</strong> immersion pump</td>
<td>2 x 2350 x 2300 x 975 mm</td>
<td>2 x 1675 mm</td>
<td>2 x 140 kg</td>
<td>1135006046</td>
</tr>
<tr>
<td>10000 litre <strong>without</strong> immersion pump</td>
<td>2 x 2430 x 2300 x 1350 mm</td>
<td>2 x 2050 mm</td>
<td>2 x 170 kg</td>
<td>1135006047</td>
</tr>
</tbody>
</table>

1) max. shaft extension 500 mm
**Roth seepage systems for rainwater seepage**

**Rainwater retention and seepage**

More and more cities and municipalities are now charging for the supply of rainwater in public water networks, and a rainwater seepage system is becoming a requirement for new constructions. The Roth seepage system for on-property rainwater seepage and retention fulfills all communal and water legislation requirements flexibly and cheaply, and offers various options for modern rainwater management in terms of the seepage, retention and utilisation of rainwater. In addition to the highly practical prefabricated seepage blocks for private use (available in 600 litre and 1200 litre models), the system can also be used for commercial or communal applications for all types of rainwater retention.

**Benefits of the Roth seepage system**

- Prefabricated complete systems for all private property types
- Seepage capacity can be flexibly dimensioned based on series connections in compliance with ATV-A 138
- Vehicle-proof at 0.80 m soil coverage
- Jacketed in geotextile
- Supplied ready for connection
- Reliable function
- Vehicle-proof
- Low installation depth
- Easy installation

<table>
<thead>
<tr>
<th>Soil type</th>
<th>Connected roof surface</th>
<th>100 m²</th>
<th>200 m²</th>
<th>300 m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse sand</td>
<td></td>
<td>2 x 600 litre or 1 x 1200 litre</td>
<td>4 x 600 litre or 2 x 1200 litre</td>
<td>4 x 600 litre or 2 x 1200 litre</td>
</tr>
<tr>
<td>Medium sand</td>
<td></td>
<td>4 x 600 litre or 2 x 1200 litre</td>
<td>6 x 600 litre or 3 x 1200 litre</td>
<td>10 x 600 litre or 5 x 1200 litre</td>
</tr>
<tr>
<td>Fine sand</td>
<td></td>
<td>6 x 600 litre or 3 x 1200 litre</td>
<td>10 x 600 litre or 5 x 1200 litre</td>
<td>14 x 600 litre or 7 x 1200 litre</td>
</tr>
<tr>
<td>Sandy silt</td>
<td></td>
<td>6 x 600 litre or 3 x 1200 litre</td>
<td>12 x 600 litre or 6 x 1200 litre</td>
<td>24 x 600 litre or 12 x 1200 litre</td>
</tr>
</tbody>
</table>

**Recommended dimensions in compliance with ATV-A 138**

<table>
<thead>
<tr>
<th>Product</th>
<th>Dimensions (L x W x H)</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roth seepage block 600 litres</td>
<td>1200 x 1200 x 400 mm</td>
<td>35 kg</td>
<td>1135006655</td>
</tr>
<tr>
<td>Roth seepage block 1200 litres</td>
<td>2400 x 1200 x 400 mm</td>
<td>67 kg</td>
<td>1135006656</td>
</tr>
<tr>
<td>Fine filter shaft DN 250 with cover</td>
<td>1400 mm</td>
<td>19 kg</td>
<td>1135006657</td>
</tr>
<tr>
<td>Aerator and aspirator for seepage block</td>
<td></td>
<td></td>
<td>1135006659</td>
</tr>
</tbody>
</table>
Roth retention tank
underground installation with dome shaft and cover

Roth retention tanks are available in the sizes 3500, 5000 and 6000 litres. All tanks offer a rainwater retention and retention volume of 50% each. The monolithic tank is manufactured from premium quality PE, is stable underground and vehicle-proof. The dome shaft is supplied within the scope of delivery with every tank as standard. The dome shaft is inserted into the tank at the time of delivery, and can be adjusted to any excavation depth.

All tanks come with a load-bearing shaft cover as standard. Where vehicle-proofing is required, the “Roth shaft cover, vehicle-proof (1135005438)” must be ordered as an accessory.

All Roth retention tanks come with a dome shaft-integrated filter cage as standard.

The tanks come equipped with a 1” floating flow regulator to ensure delayed rainwater run-off. The device ensures a run-off of 0.07 to 0.5 l/s rainwater into the water line.

### Roth retention tank

<table>
<thead>
<tr>
<th>Model</th>
<th>Retention capacity</th>
<th>Effective volume</th>
<th>Tank dimensions (L x W x H)</th>
<th>Height incl. shaft</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roth retention tank 3500 litre</td>
<td>1750 l</td>
<td>1750 l</td>
<td>2350 x 2300 x 975 mm</td>
<td>max. 1650 mm</td>
<td>145 kg</td>
<td>1135007229</td>
</tr>
<tr>
<td>Roth retention tank 5000 litre</td>
<td>2500 l</td>
<td>2500 l</td>
<td>2430 x 2300 x 1350 mm</td>
<td>max. 2050 mm</td>
<td>175 kg</td>
<td>1135007230</td>
</tr>
<tr>
<td>Roth retention tank 6000 litre</td>
<td>3000 l</td>
<td>3000 l</td>
<td>3120 x 1830 x 1920 mm</td>
<td>max. 3180 mm</td>
<td>295 kg</td>
<td>1135007231</td>
</tr>
<tr>
<td>Roth Retention pack 2” version</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1135007232</td>
</tr>
</tbody>
</table>

Other tank capacities and retention flow regulators with other flow rates available on request.
**Retention tank pack**

**Twinbloc® or round storage tank (6000 litre)**
Underground rainwater storagetank with an ultra-low profile and integrated telescopic dome shaft system, inflow regulator and overflow siphon with barrier against small animals.

**Roth retention valve**
The Roth retention valve guarantees regular and pre-set run-off volumes.
Hose dimension: 1”
Flow rate in litres per second 0.07 l/s to 0.50 l/s.

**Filter cage**
The filter cage is integrated in the dome shaft and filters the collected rainwater. Mesh size 1 mm.

---

**Roth Retrofit set retention pack 2” version**
The Roth retrofit set is suitable for installations in existing underground storage tanks. The set can be used in conjunction with all Roth underground storage tanks. The retrofit set can optionally be installed on the bottom of the tank (100% retention) or at mid-level (50% retention + 50% effective volume).

The Roth retention valve guarantees regular and pre-set run-off volumes.
Hose dimension: 2”
Flow rate in litres per second 0.66 l/s to 1.64 l/s
The Roth underground rainwater storage tanks (round) are available in sizes 3500, 4500 and 6000 litres. These tanks are manufactured from premium quality PE as a single piece in rotational moulding processes. They come equipped with two DN 100 connections for inflow and overflow. The dome shaft is supplied with every tank as standard, and can be adjusted to the relevant installation depth of the tank.

Two empty pipe sockets are provided on each end of the tank for the connection of supply lines.

<table>
<thead>
<tr>
<th>Model</th>
<th>Tank dimensions (L x W x H)</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underground storage tank with around 3500 l capacity, with shaft and cover</td>
<td>2070 x 1700 x 1830 mm</td>
<td>160 kg</td>
<td>1135006757</td>
</tr>
<tr>
<td>Underground storage tank with around 4500 l capacity, with shaft and cover</td>
<td>2450 x 1765 x 1860 mm</td>
<td>195 kg</td>
<td>1135006758</td>
</tr>
<tr>
<td>Underground storage tank with around 6000 l capacity, with shaft and cover</td>
<td>3120 x 1830 x 1920 mm</td>
<td>290 kg</td>
<td>1135006759</td>
</tr>
</tbody>
</table>
Roth underground rainwater storage tank (round)

Dimensions

Accessories

The relevant accessories needed to complete your bespoke building technology or garden pack are listed on the following pages.

Coupling

Tanks can be coupled via a lower DN 100 connection line.

The bore area provided on the tank allows the connection of an additional lower supply line (see accessories for connection set).

The dome shaft system with load-bearing cover is supplied with every tank within the scope of delivery as standard.

3500 litres

4500 litres

6000 litres

Dimensions in mm
Accessories for Roth underground rainwater storage tank (round)

**Overflow siphon with barrier against small animals**
For retrofitting the round underground storage tank; prevents excessive odour development when the overflow is connected to the public canalisation system, and ensures optimised removal of the floating layer.
Mat. No. 1135006667

**Combipress submersible pressure pump**
Submersible pump with automatic switching unit KIT 02 and floating discharge. For use in conjunction with Roth RON backfeed module.
Flow volume max. 6 m³/h,
Delivery head max. 55 m,
Max. final system pressure 10 bar.
Mat. No. 1135006054

**Cartridge filter upgrade pack**
The same segment has also been translated as: For installation in rainwater storage tanks for roof surfaces up to 150 m², stainless steel filter cartridge, height difference inflow and outflow 66 mm, mesh size 0.55 mm. Accessory for Roth low-profile tank dome shaft installation included.
Mat. No. 1135006450

**Filter for roof surfaces up to 350 m²**
Filter for underground installation, complete with telescopic extension for roof surfaces up to 350 m². Stainless steel filter cartridge, DN 100 inlets and DN 125 outlet. Mesh size 0.55 mm.
Mat. No. 1135006453

**Vehicle-proof shaft cover (600 kg wheel load)**
As replacement for the cover included in the scope of delivery. Load bearing capacity of 600 kg.
Mat. No. 1135005438

**Garden filter set**
Filter cage with connection accessory for Roth low-profile tank dome shaft installation.
Mat. No. 1135006452

**Inflow regulator upgrade pack**
For retrofitting the Roth Twinbloc® low-profile storage tank, comprising DN 100 UD pipe and inflow regulator.
Mat. No. 1135006673

**Filter for underground installation DN 100**
For the connection of multiple rainwater downpipes of DN 100 with extension pipe (500 mm). Mesh size 0.28 mm. The filter is suitable for roof surfaces up to 200 m².
Mat. No. 1135006654

**Inflow regulator upgrade pack**
The same segment has also been translated as: For installation in rainwater storage tanks for roof surfaces up to 150 m², stainless steel filter cartridge, height difference inflow and outflow 66 mm, mesh size 0.55 mm. Accessory for Roth low-profile tank dome shaft installation included.
Mat. No. 1135006450

**Filter for roof surfaces up to 350 m²**
Filter for underground installation, complete with telescopic extension for roof surfaces up to 350 m². Stainless steel filter cartridge, DN 100 inlets and DN 125 outlet. Mesh size 0.55 mm.
Mat. No. 1135006453

**Overflow siphon with barrier against small animals**
For retrofitting the round underground storage tank; prevents excessive odour development when the overflow is connected to the public canalisation system, and ensures optimised removal of the floating layer.
Mat. No. 1135006667

**Garden filter set**
Filter cage with connection accessory for Roth low-profile tank dome shaft installation.
Mat. No. 1135006452

**Vehicle-proof shaft cover (600 kg wheel load)**
As replacement for the cover included in the scope of delivery. Load bearing capacity of 600 kg.
Mat. No. 1135005438

**Combipress submersible pressure pump**
Submersible pump with automatic switching unit KIT 02 and floating discharge. For use in conjunction with Roth RON backfeed module.
Flow volume max. 6 m³/h,
Delivery head max. 55 m,
Max. final system pressure 10 bar.
Mat. No. 1135006054

**Immersion pump**
Multi-speed, medium-cooled immersion pump for home and garden. The pump comes equipped with an integrated flow controller complete with electronic ON/OFF function as dry-run protection.
Mat. No. 1135006061
Accessories
for Roth rainwater storage tank

Roth ASPRI 15-4 domestic water supply system
Horizontal centrifuge pump (4-speed), self-priming, with integrated dry-run protection; power consumption 700 W, 1” connections; weight 11.4 kg, delivery head max. 64 m, delivery volume 3.5 m³/h. Max. delivered volume 15 m³/h, max. suction line length 15 m; max. suction lift 3 m.
Mat. No. 1135002726

Comfort backfeed module
Fully automated electronic control unit for on-demand drinking water backfeed; fill level indicator (cm), function monitoring with alarm function, periodic water exchange.
Mat. No. 1135006055

Comfort pump module
Complete module with integrated ASPRI 15-4 domestic water supply system and backfeed directly to the pump without detour via the tank. Electronic level indicator.
Mat. No. 1135006049

Connection set
For connecting the Twinbloc® low-profile storage tanks with DN 100 UD pipe, comprising hole saw and 2 DN 100 custom gaskets.
Mat. No. 1135002725

Roth labelling pack
For labelling the rainwater system inside the building.
Mat. No. 1115001286

Standard pump module
Compact module consisting of a high-performance, low-noise pump and a drinking water in-feed system. An automatic pressure regulation and control unit ensures fully automated and failsafe operation.
Mat. No. 1135006670

Custom gasket
For additional connections on Roth rainwater storage tanks.
- Custom gasket DN 50
  Requires 54 mm bore hole.
  Mat. No. 1135005454
- Custom gasket DN 100
  Requires 118 mm bore hole.
  Mat. No. 1135005455

Wall bushing
For watertight routing of pipes and electrical lines through walls.
- DN 100 - 32
  Mat. No. 1135006671
- DN 150 - 32/40/50
  Mat. No. 1135006672
Roth rainwater building systems
complete packs for building-internal use and underground installation

Roth rainwater building systems

The Roth complete systems for building-internal use are fully prefabricated packs, that are delivered ready for installation. The systems are available with an optional pump module featuring an integrated drinking water backfeed unit. Rainwater is collected on the roof and fed into the underground storage tank via a downpipe, where it is filtered via the integrated fine-mesh filter and finally reaches the tank via a flow-controlled inflow pipe. Once the max. fill level of the tank is reached, rainwater overflow is fed via a custom overflow siphon into a seepage system or directly into the public water system. The system is fully automated. In normal operation, rainwater is supplied from the underground tank via a bespoke suction pump system and fed to the consumption points. During dry periods, the rainwater supply system switches over to the drinking water supply, feeding the water directly into the network and bypassing the tank.

Rainwater building system complete pack

Round tank
Underground rainwater tank with inflow regulator and overflow siphon with barrier against small animals.

Dome shaft system telescopic with filter
Shaft base with integrated filter (mesh size 0.55 mm). Overall height of the shaft min. 850 mm, max. 1250 mm. Telescopic part 500 mm in height. Telescopic movement approx. 400 mm. Inner diameter 625 mm.

Floating discharge
Consisting of a floating ball, coarse suction filter with non-return valve, 2 m hose and clamp fitting for 1" PE water pipe.

Pump module (optional)
Complete module with integrated ASPRI 15-4 domestic water supply system and backfeed directly to the pump without detour via the tank.

<table>
<thead>
<tr>
<th>Roth rainwater building systems</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Tank dimensions (L x W x H)</td>
<td>Weight</td>
</tr>
<tr>
<td>Building system 3500 l with pump module</td>
<td>2070 x 1700 x 1830 mm</td>
<td>170 kg</td>
</tr>
<tr>
<td>Building system 4500 l with pump module</td>
<td>2450 x 1765 x 1860 mm</td>
<td>205 kg</td>
</tr>
<tr>
<td>Building system 6000 l with pump module</td>
<td>3120 x 1830 x 1920 mm</td>
<td>300 kg</td>
</tr>
<tr>
<td>Building system 3500 l without pump module</td>
<td>2070 x 1700 x 1830 mm</td>
<td>170 kg</td>
</tr>
<tr>
<td>Building system 4500 l without pump module</td>
<td>2450 x 1765 x 1860 mm</td>
<td>205 kg</td>
</tr>
<tr>
<td>Building system 6000 l without pump module</td>
<td>3120 x 1830 x 1920 mm</td>
<td>300 kg</td>
</tr>
</tbody>
</table>
Roth collection tank with filter cage
for watering the garden

Roth collection tanks retain rainwater for your garden. Installation without any need for a crane. The 1000 litre and 1500 litre collection tanks with filter shaft come equipped with a dome shaft with integrated filter cage that is permanently connected to the tank. The DN 100 inflow pipe connections are located on the shaft. The 2000 litre tanks with filter cage and the 3000 litre tanks with filter cage have a permanently welded manhole shaft with a lockable hinged cover and an integrated filter cage in the inner cover. An immersion pump facilitates water extraction. The DN 100 inflow pipe connections are located on the shaft.

### Roth collection tank with filter cage

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (L x W x H)</th>
<th>Height incl. shaft</th>
<th>Inspection opening</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection tank 1000 l</td>
<td>1240 x 720 x 1250 mm</td>
<td>1660 mm</td>
<td>Ø 390 mm</td>
<td>46 kg</td>
<td>1135006646</td>
</tr>
<tr>
<td>Collection tank 1500 l</td>
<td>1880 x 720 x 1480 mm</td>
<td>2060 mm</td>
<td>Ø 390 mm</td>
<td>67 kg</td>
<td>1135006647</td>
</tr>
<tr>
<td>Collection tank 2000 l</td>
<td>2020 x 880 x 1650 mm</td>
<td>2200 mm</td>
<td>Oval 500 x 400 mm</td>
<td>100 kg</td>
<td>1135006648</td>
</tr>
<tr>
<td>Collection tank 3000 l</td>
<td>2630 x 880 x 1650 mm</td>
<td>2200 mm</td>
<td>Oval 500 x 400 mm</td>
<td>135 kg</td>
<td>1135006649</td>
</tr>
</tbody>
</table>
Roth collection tanks without filter cage
for watering the garden

Roth collection tanks retain rainwater for your garden. Installation without any need for a crane. The tanks have a permanently welded manhole shaft with lockable hinged cover (height 370 mm). An additional internal cover doubles as child safety.

There are two DN 100 pipe ends welded to the front of the tank (inflow/overflow). The tanks are designed for standalone installation. Lower flange connections are therefore not provided. An immersion pump facilitates water extraction via a screw connection on the top of the tank.

The dome shaft has a fixed length of 370 mm. The shaft cannot be shortened or lengthened.

Matching accessories can be found on the following pages.

---

<table>
<thead>
<tr>
<th>Roth collection tanks without filter cage</th>
<th>Dimensions (L x W x H)</th>
<th>Inspection opening</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection tank 1000 l without filter cage</td>
<td>1240 x 720 x 1630 mm</td>
<td>Oval 500 x 400 mm</td>
<td>56 kg</td>
<td>1135006760</td>
</tr>
<tr>
<td>Collection tank 1500 l without filter cage</td>
<td>1880 x 720 x 1820 mm</td>
<td>Oval 500 x 400 mm</td>
<td>75 kg</td>
<td>1135006761</td>
</tr>
<tr>
<td>Collection tank 2000 l without filter cage</td>
<td>2020 x 880 x 2020 mm</td>
<td>Oval 500 x 400 mm</td>
<td>90 kg</td>
<td>1135006762</td>
</tr>
<tr>
<td>Collection tank 3000 l without filter cage</td>
<td>2630 x 880 x 2020 mm</td>
<td>Oval 500 x 400 mm</td>
<td>120 kg</td>
<td>1135006763</td>
</tr>
</tbody>
</table>
Accessories
for Roth collection tanks with/without filter cage

Downpipe filter – plastic
For above-ground storage tanks. Downpipe adapters and reducers (80-100 mm Ø). Connection pipes DN 50 for roof areas up to 80 m². Mesh size 0.35 mm.
- grey Mat. No. 1135006660
- brown Mat. No. 1135006661

Filter for underground installation DN 100
For the connection of multiple rainwater downpipes DN 100 with extension pipe (500 mm). Mesh size 0.28 mm. Suitable for roof areas up to 200 m².
Mat. No. 1135006654

Screw connection for DN 50 inlet
Suitable for 750 to 3000 l garden storage tank/large storage tank.
Mat. No. 1135005452

Custom gasket
For additional connections on Roth rainwater storage tanks.
- Custom gasket DN 50 Requires 54 mm bore hole. Mat. No. 1135005454
- Custom gasket DN 100 Requires 118 mm bore hole. Mat. No. 1135005455

Screw connection for immersion pump
For upper screw connection pipe ends
- Screw fastening with 1” hose nozzle and clamp fitting for 1” PE water pipe
- Suitable for garden storage tank/large storage tank
Mat. No. 1135005453

Downpipe filter – metal
Filters and collects rainwater for above-ground storage. For installation in downpipes DN 100, mesh size 0.315 mm.
- Downpipe filter titanium zinc Mat. No. 1135006662
- Downpipe filter copper Mat. No. 1135006663

Filter for roof surfaces up to 350 m²
Filter for underground installation, complete with telescopic extension for roof surfaces up to 350 m². Stainless steel filter insert, inlet DN 100 and outlet DN 125. Mesh size 0.35 mm.
Mat. No. 1135006453

Immersion pump
Multi-speed, medium-cooled immersion pump for home and garden. The pump comes equipped with an integrated flow controller complete with electronic ON/OFF function as dry-run protection.
Mat. No. 1135006061

Filter cage
The filter cage is integrated in the dome shaft of the tank and filters the collected rainwater. Mesh size 1 mm.
Mat. No. 1135006664

Connection set for the garden
Comprising a small ground shaft with cover, a 1/2” hose connection, ball valve and a PE water pipe (length 10 m).
Mat. No. 1135006059

Trade prices excl. VAT
Roth building rainwater storage tank
for above-ground installation in buildings

Roth building tanks are manufactured from UV-resistant PE material. They have an opaque green coloration to prevent algae infestation inside the tank. The tank sizes 1100 to 2000 litres come with galvanised steel bands to ensure maximum stability. The 750 litre tank is equipped with an inspection opening with a diameter of 150 mm, while the 1100 to 2000 l tanks have an inspection opening with a diameter of 400 mm.

All basic Roth building tanks come equipped with a DN 50 inlet with flow regulator at a screw connection pipe end at the top. The overflow with integrated siphon and barrier against small animals is located on the side. The overflow can be positioned on the left or the right side of the tank. This will only require a rotating of the siphon. All screw connection pipe ends at the top are provided with a 2" inner thread.

Roth building expansion tanks are equipped with a screw connection pipe end at the top and a flange connection at the bottom. Building expansion tanks are suitable for drinking water storage, and can be combined with Roth drinking water tanks.

Several tanks can be connected using the Roth connection accessories. The resulting gap between tanks will measure 60 mm. Tank connections can also be created using Roth universal flanged elbow pipes and T-junctions.

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (L x W x H)</th>
<th>Inspection opening</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic building tank 750 l</td>
<td>730 x 730 x 1660 mm</td>
<td>Ø 150 mm</td>
<td>25 kg</td>
<td>11150000293</td>
</tr>
<tr>
<td>Building expansion tank 750 l</td>
<td>730 x 730 x 1660 mm</td>
<td>Ø 150 mm</td>
<td>25 kg</td>
<td>11150000294</td>
</tr>
<tr>
<td>Basic building tank 1100 l</td>
<td>1450 x 720 x 1375 mm</td>
<td>Ø 400 mm</td>
<td>53 kg</td>
<td>11150000295</td>
</tr>
<tr>
<td>Building expansion tank 1100 l</td>
<td>1450 x 720 x 1375 mm</td>
<td>Ø 400 mm</td>
<td>53 kg</td>
<td>11150000296</td>
</tr>
<tr>
<td>Basic building tank 1500 l</td>
<td>1520 x 720 x 1605 mm</td>
<td>Ø 400 mm</td>
<td>80 kg</td>
<td>11150000297</td>
</tr>
<tr>
<td>Building expansion tank 1500 l</td>
<td>1520 x 720 x 1605 mm</td>
<td>Ø 400 mm</td>
<td>80 kg</td>
<td>11150000298</td>
</tr>
<tr>
<td>Basic building tank 2000 l</td>
<td>2050 x 720 x 1640 mm</td>
<td>Ø 400 mm</td>
<td>120 kg</td>
<td>11150000299</td>
</tr>
<tr>
<td>Building expansion tank 2000 l</td>
<td>2050 x 720 x 1640 mm</td>
<td>Ø 400 mm</td>
<td>120 kg</td>
<td>11150000300</td>
</tr>
</tbody>
</table>
## Accessories
for Roth rainwater building tanks

### Connection accessories for basic building tanks
- Consisting of elbow flange connection, stop valve with flange, hose connector, seal and screws.

<table>
<thead>
<tr>
<th>Mat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1115001287</td>
<td>Universal 1&quot; elbow flange connector</td>
</tr>
<tr>
<td>1115001292</td>
<td>Universal 2&quot; elbow flange connector</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1135000165</td>
<td>Mechanical fill-level display</td>
</tr>
</tbody>
</table>

### Flange with ball valve
- Suitable for 750 to 3000 litre garden/large tank.

<table>
<thead>
<tr>
<th>Mat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1135000156</td>
<td>Roth 1&quot; PP flange</td>
</tr>
<tr>
<td>1135000157</td>
<td>Roth 2&quot; PP flange</td>
</tr>
</tbody>
</table>

### Downpipe filter – plastic
- For above-ground storage tanks. Downpipe adapters and reducers (80-100 mm Ø). Connection pipes DN 50 for roof areas up to 80 m². Mesh size 0,55 mm.

<table>
<thead>
<tr>
<th>Mat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1135006660</td>
<td>grey</td>
</tr>
<tr>
<td>1135006661</td>
<td>brown</td>
</tr>
</tbody>
</table>

### Universal 1" PP flange
<table>
<thead>
<tr>
<th>Mat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1115001296</td>
<td>Universal 1&quot; flanged T-connector</td>
</tr>
<tr>
<td>1115001299</td>
<td>Universal 2&quot; flanged T-connector</td>
</tr>
<tr>
<td>1115001300</td>
<td>Universal 1&quot; elbow flange connector</td>
</tr>
<tr>
<td>1115001301</td>
<td>Universal 2&quot; elbow flange connector</td>
</tr>
</tbody>
</table>

### Connection accessories for expansion building tanks
- Flanged T-connector, seal and screws included Air vent with 2” external thread.

<table>
<thead>
<tr>
<th>Mat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1115001288</td>
<td>Connection accessories for expansion building tanks</td>
</tr>
</tbody>
</table>

### Mechanical fill-level display
- Suitable for Roth building/industrial storage tanks.

<table>
<thead>
<tr>
<th>Mat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1115001293</td>
<td>Universal 1&quot; flanged T-connector</td>
</tr>
<tr>
<td>1115001304</td>
<td>Universal 2&quot; flanged T-connector</td>
</tr>
<tr>
<td>1115001305</td>
<td>Universal 1&quot; elbow flange connector</td>
</tr>
<tr>
<td>1115001306</td>
<td>Universal 2&quot; elbow flange connector</td>
</tr>
</tbody>
</table>

### Connection accessories for expansion building tanks
- Flanged T-connector, seal and screws included Air vent with 2” external thread.

<table>
<thead>
<tr>
<th>Mat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1115001288</td>
<td>Connection accessories for expansion building tanks</td>
</tr>
</tbody>
</table>

### Universal 1" elbow flange connector
<table>
<thead>
<tr>
<th>Mat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1115001292</td>
<td>Universal 1&quot; elbow flange connector</td>
</tr>
<tr>
<td>1115001439</td>
<td>Universal 2&quot; elbow flange connector</td>
</tr>
</tbody>
</table>

### Universal 2" elbow flange connector
<table>
<thead>
<tr>
<th>Mat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1115001288</td>
<td>Universal 2&quot; elbow flange connector</td>
</tr>
</tbody>
</table>

### Roth ASPRI 15-4 domestic water supply system
- Horizontal centrifuge pump (4-speed), self-priming, with integrated dry-run protection; power consumption 700 W, 1" connections; weight 11.4 kg, delivery head max. 44m; delivery volume 3,5 m³/h. Max. delivered volume 15 m³/h, max. suction line length 15 m; max. suction lift 3 m.

<table>
<thead>
<tr>
<th>Mat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1115001288</td>
<td>Universal 2&quot; elbow flange connector</td>
</tr>
</tbody>
</table>

### Drinking water backfeed unit
- The completely assembled drinking water backfeed set is DIN-compliant, including the fully automated controller for tank backfeed.

<table>
<thead>
<tr>
<th>Mat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1135000665</td>
<td>Drinking water backfeed unit</td>
</tr>
</tbody>
</table>
Roth industrial storage tanks are intended primarily for commercial use. Car wash facilities, garden centres, and industrial plants can now retain and store large volumes of water efficiently and economically. Industrial storage tanks can also be implemented for rainwater utilisation in residential applications. Tanks can be fitted with additional pipe connections on request. Custom accessories facilitate professional utilisation.

**Basic industrial storage tanks**

Basic industrial storage tanks come equipped with a DN 100 inlet with flow regulator and a DN 100 overflow siphon with integrated barrier against small animals. The connections are located at the front of the tanks. Roth industrial storage tanks are furthermore equipped with two flange connections at the bottom. The tank saddle offers 2 screw connection pipe ends with 2” inner thread and an inspection opening (approx. 500 x 400 mm).

**Expansion industrial storage tanks**

Expansion industrial storage tanks are equipped with two flange connections at the bottom, and one screw connection pipe end at the top in 2000 litre tanks, while the 3000 litre tanks have two screw connection pipe ends at the top.

**Connecting multiple storage tanks**

The storage tanks are connected via the Roth 2” connecting line or the Roth universal flange connectors or T-connectors. Furthermore, a connection of the floating discharge is optionally available at the lower flange connections.

---

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (L x W x H)</th>
<th>Inspection opening</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic industrial storage tank 2000 l</td>
<td>2020 x 880 x 1650 mm</td>
<td>Oval 500 x 400 mm</td>
<td>92 kg</td>
<td>1135001200</td>
</tr>
<tr>
<td>Expansion industrial storage tank 2000 l</td>
<td>2020 x 880 x 1650 mm</td>
<td>Oval 500 x 400 mm</td>
<td>92 kg</td>
<td>1135001201</td>
</tr>
<tr>
<td>Basic industrial storage tank 3000 l</td>
<td>2630 x 880 x 1650 mm</td>
<td>Oval 500 x 400 mm</td>
<td>122 kg</td>
<td>1135001202</td>
</tr>
<tr>
<td>Expansion industrial storage tank 3000 l</td>
<td>2630 x 880 x 1650 mm</td>
<td>Oval 500 x 400 mm</td>
<td>122 kg</td>
<td>1135001203</td>
</tr>
</tbody>
</table>
Accessories
for Roth industrial rainwater storage tanks

- Universal 1" elbow flange connector
  Mat. No. 1115001292
- Universal 2" elbow flange connector
  Mat. No. 1115001439

2" connecting line
For connecting basic and expansion underground storage tanks via the lower flange connections, 2 units. 2" flange, 2 units 2" clamp fitting 63 mm, PE water pipe 63 mm, length 1000 mm (can be shortened).
Mat. No. 1115003471

Downpipe filter – plastic
For above-ground storage tanks. Downpipe adapters and reducers (80-100 mm Ø). Connection pipes DN 50 for roof areas up to 80 m². Mesh size 0.55 mm.
- grey
  Mat. No. 1135006660
- brown
  Mat. No. 1135006661

Mechanical fill-level display
Suitable for Roth building/industrial storage tanks.
Mat. No. 1135000165

Roth ASPRI 15-4 domestic water supply system
Horizontal centrifuge pump (4-speed), self-priming, with integrated dry-run protection, power consumption 700 W, 1" connections, weight 11.4 kg, delivery head max. 44 m, delivery volume 3.5 m³/h. Max. delivered volume 15 m³/h, max. suction line length 15 m; max. suction lift 3 m.
Mat. No. 1135002726

- Universal 1" flanged T-connector
  Mat. No. 1115001293
- Universal 2" flanged T-connector
  Mat. No. 1115001440

- Roth 1" PP flange
  Mat. No. 1135000156
- Roth 2" PP flange
  Mat. No. 1135000157

Flange with ball valve
Suitable for 750 to 3000 l garden storage tank/large storage tank.
Mat. No. 1135005456

Floating discharge
Suitable for Roth industrial storage tanks for connection to the lower flange connections.
Mat. No. 1135005451

Drinking water backfeed unit
The completely assembled drinking water backfeed set is DIN-compliant, including the fully automated controller for tank backfeed.
Mat. No. 1135006665
Roth rainwater storage tank
for above-ground installation in gardens

Roth garden storage tank

Roth garden storage tanks retain rainwater for your garden. They offer good protection against subsequent water contamination. The storage tanks have an opaque coloration to prevent algae growth. They are manufactured from premium quality PE and are therefore durable, indecomposable and UV-resistant. Custom accessories round off the storage tanks for any requirements and to your exact specifications. Suitable for outdoor or indoor installation.

Roth large storage tank

Roth large storage tanks are intended primarily for commercial use. Car wash facilities, garden centres, and industrial plants can now retain and store large volumes of water efficiently and economically. Large storage tanks can also be installed in domestic applications for rainwater utilisation. Tanks can be fitted with pipe connections on request. Bespoke accessories help facilitate commercial use of the storage tanks.

**Roth rainwater storage tank**

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (L x W x H)</th>
<th>Inspection opening</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garden storage tank 750 l</td>
<td>730 x 730 x 1660 mm</td>
<td>Ø 150 mm</td>
<td>25 kg</td>
<td>1135006641</td>
</tr>
<tr>
<td>Garden storage tank 1000 l*</td>
<td>1240 x 720 x 1250 mm</td>
<td>Oval 500 x 400 mm</td>
<td>36 kg</td>
<td>1135006642</td>
</tr>
<tr>
<td>Garden storage tank 1500 l</td>
<td>1880 x 720 x 1480 mm</td>
<td>Oval 500 x 400 mm</td>
<td>59 kg</td>
<td>1135006643</td>
</tr>
<tr>
<td>Large storage tank 2000 l</td>
<td>2020 x 880 x 1650 mm</td>
<td>Oval 500 x 400 mm</td>
<td>92 kg</td>
<td>1135006644</td>
</tr>
<tr>
<td>Large storage tank 3000 l</td>
<td>2630 x 880 x 1650 mm</td>
<td>Oval 500 x 400 mm</td>
<td>122 kg</td>
<td>1135006645</td>
</tr>
</tbody>
</table>

* 850 litres effective volume
Accessories for Roth rainwater storage tanks

- **Downpipe filter – plastic**
  For above-ground storage tanks. Downpipe adapters and reducers (80-100 mm Ø). Connection pipes DN 50 for roof areas up to 80 m². Mesh size 0.55 mm.
  - grey
    Mat. No. 1135006660
  - brown
    Mat. No. 1135006661

- **Roth 1” PP flange**
  Mat. No. 1135000156

- **Roth 2” PP flange**
  Mat. No. 1135000157

- **Screw connection for immersion pump**
  For upper screw connection pipe ends
  > Screw connection for 1” hose nozzle and clamp fitting for 1” PE water pipe
  > Suitable for garden storage tank/large storage tank
  Mat. No. 1135005453

- **Immersion pump**
  Multi-speed, medium-cooled immersion pump for home and garden. The pump comes equipped with an integrated flow controller complete with electronic ON/OFF function as dry-run protection.
  Mat. No. 1135006061

- **Custom gasket**
  For additional connections on Roth rainwater storage tanks.
  - Custom gasket DN 50
    Requires 54 mm bore hole.
    Mat. No. 1135005454
  - Custom gasket DN 100
    Requires 118 mm bore hole.
    Mat. No. 1135005455

- **Downpipe filter – metal**
  Filters and collects rainwater for above-ground storage. For installation in downpipes DN 100, mesh size 0.315 mm.
  - Downpipe filter titanium zinc
    Mat. No. 1135006662
  - Downpipe filter copper
    Mat. No. 1135006663

- **Flange with ball valve**
  Suitable for 750 to 3000 l garden storage tank/large storage tank.
  Mat. No. 1135005456

- **Screw connection for DN 50 inlet**
  Suitable for 750 to 3000 l garden storage tank/large storage tank.
  Mat. No. 1135005452

- **Connection set**
  For connecting the Twinbloc® low-profile storage tanks with DN 100 UD pipe, comprising hole saw and 2 DN 100 custom gaskets.
  Mat. No. 1135002725

- **Mechanical fill-level display**
  Suitable for Roth building/industrial storage tanks.
  Mat. No. 1135000165

- **Downpipe filter – plastic**
  For above-ground storage tanks. Downpipe adapters and reducers (80-100 mm Ø). Connection pipes DN 50 for roof areas up to 80 m². Mesh size 0.55 mm.
  - grey
    Mat. No. 1135006660
  - brown
    Mat. No. 1135006661

- **Roth 1” PP flange**
  Mat. No. 1135000156

- **Roth 2” PP flange**
  Mat. No. 1135000157

- **Screw connection for immersion pump**
  For upper screw connection pipe ends
  > Screw connection for 1” hose nozzle and clamp fitting for 1” PE water pipe
  > Suitable for garden storage tank/large storage tank
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- **Custom gasket**
  For additional connections on Roth rainwater storage tanks.
  - Custom gasket DN 50
    Requires 54 mm bore hole.
    Mat. No. 1135005454
  - Custom gasket DN 100
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  Mat. No. 1135002725

- **Mechanical fill-level display**
  Suitable for Roth building/industrial storage tanks.
  Mat. No. 1135000165
Roth drinking water storage tank
for above-ground installation in buildings

Roth drinking water tank

Roth drinking water storage tanks are suitable for the storage of drinking water as above ground installations in buildings. These storage tanks are made from a bespoke non-hybrid tested PE. The material used satisfies the KTW guideline of the Federal Environmental Agency in the category ‘Containers’. From a microbiological point of view, the material furthermore complies with the requirements set out in the DVGW (German Association of the Gas and Water Sector) worksheet W270 (11/2007). All storage tanks have an opaque green coloration, which prevents algae infestation. Due to its compact dimensions, the 750 l storage tank is particularly well suited for use in tight cellar spaces and spaces with narrow access doors. The 1100 to 2000 l storage tanks come with custom pipe bandages to ensure optimised stability. All storage tanks are equipped with a DN 100 pipe connection at the front. There are two screw connections with 2” internal thread on the top of each storage tank. The drinking water storage tanks have a flange connection sealed with a blind flange at the bottom of the tank. These storage tanks therefore offer various application options.

Roth drinking water storage tank dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (L x W x H)</th>
<th>Inspection opening</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinking water storage tank 750 l</td>
<td>730 x 730 x 1660 mm</td>
<td>Ø 150 mm</td>
<td>25 kg</td>
<td>1135006650</td>
</tr>
<tr>
<td>Drinking water storage tank 1100 l</td>
<td>1450 x 720 x 1375 mm</td>
<td>Ø 400 mm</td>
<td>53 kg</td>
<td>1135006651</td>
</tr>
<tr>
<td>Drinking water storage tank 1500 l</td>
<td>1520 x 720 x 1605 mm</td>
<td>Ø 400 mm</td>
<td>80 kg</td>
<td>1135006652</td>
</tr>
<tr>
<td>Drinking water storage tank 2000 l</td>
<td>2050 x 720 x 1640 mm</td>
<td>Ø 400 mm</td>
<td>120 kg</td>
<td>1135006653</td>
</tr>
</tbody>
</table>
Mini-wastewater treatment plants and cesspits

www.roth-umwelttechnik.com
Benefits of the system

- Years of tried and tested technologies from SBR (styrene butadiene rubber) systems and activated sludge plants in backwater operation have been brought together in the Micro-Step XL SBR-Hybrid system.
- Single tank system with just one shaft cover
- Completely pre-assembled, turnkey solution
- Immediately ready for operation
- Easy installation - the low installation depth requires no more than a mini-digger
- Highly effective, full surface ventilation system with smallest profile height
- No moving or electrified parts in the discharge water
- Low-maintenance system
- Control cabinet for indoor/outdoor installation included in the scope of delivery

Function of the system

1. Pre-treatment
   All household wastewater is fed directly into the primary sedimentation basin. In primary sedimentation, sedimentable solids are separated from the rest of the wastewater. The basin also acts as a buffer for occasionally higher volumes of wastewater, e.g. from bathtubs, when guests are staying over, or similar.
   The cyclically controlled airlift water pump feeds the wastewater from the primary sedimentation basin to the biological treatment basin.

2. Biological treatment
   The uncoiled aerator at the bottom of the tank enriches the wastewater with oxygen in several daily cycles to support the growth of micro-organisms. An additional biomass generator ensures high populations of micro-organisms, and therefore a high cleaning capacity of the system.
   Any superfluous biomass is actively returned to the primary sedimentation tank. Aeration and operation of the airlift pumps is initiated by an energy-optimised diaphragm compressor and controlled by a smart controller. The system has been tested and configured for energy-saving operation. Aeration generally does not occur at night, which means there is no power consumption.

3. Post-treatment
   A partition wall separates the biological treatment basin from the secondary clarification tank, which has a two-step configuration.
   In the first step, remaining biomass settles on the bottom. As the chamber is not aerated, there is no harm in these substances settling on the bottom of the tank.
   The second step of the secondary clarification tank consists of a separator pipe, which feeds the clarified wastewater from the clarification tank to the receiving water or water seepage unit.
   Superfluous biomass (activated sludge) is fed from the secondary clarification tank to the primary sedimentation basin several times a week.

Cleaning capacity

The mini-wastewater treatment plant Roth Micro-Step XL SBR-Hybrid satisfies all legal requirements for mini-wastewater treatment plants.
The plant satisfies Certification Class C: Z-55.31-407
Certification Class N: Z-55.31-406
### Scope of delivery for the complete system

- Twinbloc® storage tanks with integrated partition walls incl. DN 600 dome shaft and load-bearing cover
- Completely pre-assembled clarification system
- Controller and diaphragm compressor pre-assembled in a compact control cabinet for indoor/outdoor installation
- 12 m air hose each for connecting the aerator and the airlifts inside the tank

### Water seepage

The wastewater clarified in a Roth mini-wastewater treatment plant can be distributed in the soil using Roth seepage modules. Pre-assembled, installation-ready modules matching the relevant plant size can be found in the chapter "Roth seepage system".

### Maintenance of mini-wastewater treatment plants

In accordance with legislation and the requirements for building inspection approval, the system must undergo maintenance twice a year. Maintenance must be carried out by a licensed service provider, and (depending on state requirements) wastewater samples are to be collected at the outflow – from the sampling shaft included in the scope of delivery.

---

### Fully organic Roth mini-wastewater treatment plants

<table>
<thead>
<tr>
<th>Model</th>
<th>Tank dimensions (L x W x H)</th>
<th>max. height with shaft</th>
<th>Total weight</th>
<th>Mat. No.:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete system for up to 4 habitants</td>
<td>2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>220 kg</td>
<td>1135006969</td>
</tr>
<tr>
<td>Complete system for up to 6 habitants</td>
<td>2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>220 kg</td>
<td>1135006970</td>
</tr>
<tr>
<td>Complete system for up to 8 habitants</td>
<td>2 x 2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>440 kg</td>
<td>1135007001</td>
</tr>
<tr>
<td>Complete system for up to 12 habitants</td>
<td>2 x 2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>440 kg</td>
<td>1135007002</td>
</tr>
<tr>
<td>Hose extension set 12 m</td>
<td></td>
<td></td>
<td></td>
<td>1135006774</td>
</tr>
<tr>
<td>Shaft extension</td>
<td></td>
<td>Height max. 500 mm</td>
<td></td>
<td>1135005436</td>
</tr>
<tr>
<td>Vehicle-proof shaft cover</td>
<td></td>
<td></td>
<td></td>
<td>1135005438</td>
</tr>
</tbody>
</table>

See page 50 for information on commissioning
Advantages in comparison with competitor systems

The treatment system Roth Micro-Bubbler offers a number of advantages in comparison with competitor systems, specifically in conjunction with the innovative Twinbloc® storage tank system:

> storage tank overall height of just 1.35 m
> easy installation - no more than a mini-digger required
> easy handling with the attached carry handles on the tank
> tried and tested, and highly reliable SBR technology with ecocontrol power saving system – less wastewater = less power consumption
> turnkey pre-assembled
> tank-integrated sampling shaft
> no moving or electrified parts in the tank

Function of the system

1. Pre-treatment
Domestic wastewater is fed into the mini-wastewater treatment plant, which is designed as a two-chamber system. The first chamber is the pre-treatment and buffer area, the second serves as an SBR basin for biological treatment. The pre-treated wastewater is dosed progressively into the SBR basin.

2. SPR basin
The actual bio-treatment of the wastewater occurs in several cleaning cycles. Aerated and non-aerated cycles alternate.

Phase A standby phase/automatic powersave mode

The SBR basin is filled to min. fill level. The activated sludge contained in the wastewater undergoes cyclic aeration during the standby phase to keep the micro-organisms alive and ready for action. In other words: aerated and non-aerated cycles alternate. If no wastewater inflow occurs, the system remains in standby mode.

Phase B filling and clarification phase
Wastewater from the pre-treatment area is dosed into the SBR basin. The oxygen required for the process is provided by a compressor. Oxygenation occurs in intervals to minimise power consumption.

Phase C sedimentation and evacuation phase
During the sedimentation phase, the activated sludge settles on the bottom of the tank, i.e. aeration and pumps are deactivated. Superfluous sludge is fed back into the pre-treatment basin. The clarified water is then fed to the receiving water (ditch) or to the seepage unit.

3. Control unit and compressor
The entire system is operated via a diaphragm compressor, which fulfils all aeration and pump tasks. The tank contains no additional electrified parts. This ensures high function reliability and optimised downtime protection. We are fulfilling the requirements of tomorrow today, by optimising the clarification capacity and top outflow values of our SBR mini-wastewater treatment systems. The demand-responsive controller for the SBR mini-wastewater treatment systems Micro-Bubbler goes even further. The mini-wastewater treatment plant recognises the volume of water in the SBR basin and regulates aeration accordingly. That means: Less wastewater = less aeration = less power consumption = less costs.

Cleaning capacity

The plant satisfies
Certification Class C: Z-55.31-368
Certification Class D: Z-55.31-367
Scope of delivery for the complete system

- Twinbloc® storage tank as a two-chamber configuration, incl. DN 600 dome shaft and load-bearing cover
- Completely pre-assembled SBS purification system
- Controller and diaphragm compressor pre-assembled in a compact control cabinet for indoor/outdoor installation
- 12 m of helically wound pressure hose each
- Integrated sampling shaft

Control cabinet and diaphragm compressor

- Compact control cabinet for wall mounting
- Dimensions (L x W x H) 640 x 400 x 245 mm
- Suitable for indoor/outdoor installation
- Controller with ecocontrol powersave system
- Turnkey pre-assembly
- Grid-independent power outage recognition
- Power consumption: approx. 25 kWh per inhabitant per year
- With three-pole CEE power plug 230 V

Water seepage

The wastewater clarified in a Roth mini-wastewater treatment plant can be distributed in the soil using Roth seepage modules. Pre-assembled, installation-ready modules matching the relevant plant size can be found in the chapter “Roth seepage system”.

Maintenance of mini-wastewater treatment plants

See page 37.

**Fully organic Roth mini-wastewater treatment plants**

<table>
<thead>
<tr>
<th>Model</th>
<th>Tank dimensions (L x W x H)</th>
<th>max. height with shaft</th>
<th>Total weight</th>
<th>Mat. No.:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete system Micro-Bubbler for up to 4 habitants</td>
<td>2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>220 kg</td>
<td>1135006771</td>
</tr>
<tr>
<td>Complete system Micro-Bubbler for up to 6 habitants</td>
<td>2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>220 kg</td>
<td>1135006772</td>
</tr>
<tr>
<td>Complete system Micro-Bubbler for up to 8 habitants</td>
<td>3200 x 1830 x 1920 mm</td>
<td>2870 mm</td>
<td>320 kg</td>
<td>1135006773</td>
</tr>
<tr>
<td>Complete system Micro-Bubbler for up to 12 habitants</td>
<td>2 x 2430 x 2300 x 1350 mm</td>
<td>2050 mm</td>
<td>440 kg</td>
<td>1135006822</td>
</tr>
<tr>
<td>Complete system Micro-Bubbler for up to 16 habitants</td>
<td>1 x 2430 x 2300 x 1350 mm + 1 x 3200 x 1830 x 1920 mm</td>
<td>2050 mm + 2870 mm</td>
<td>540 kg</td>
<td>1135006823</td>
</tr>
<tr>
<td>Shaft extension</td>
<td>Height max. 500 mm</td>
<td></td>
<td></td>
<td>1135005436</td>
</tr>
<tr>
<td>Hose extension set 12 m</td>
<td></td>
<td></td>
<td></td>
<td>1135005438</td>
</tr>
<tr>
<td>Vehicle-proof shaft cover</td>
<td></td>
<td></td>
<td></td>
<td>1135006774</td>
</tr>
</tbody>
</table>

See page 50 for information on commissioning.
Advantages in comparison with competitor systems

Roth Micro-Step XL mini-wastewater treatment plant comes with tried and tested HDPE tanks. Other than concrete basins, PE does not rot, and is durably resistant against wastewater. All installation components are manufactured from premium quality plastic or stainless steel.

- Easy installation, low excavation depth (no heavy machinery needed)
- Compact tank designs
- Easy and safe operation, no wear parts inside the treatment plant
- Power consumption:
  - System for up to 4 habitants approx. 390 kWh/year
  - System with up to 6 habitants approx. 520 kWh/year
- Low-noise operation
- Long service life
- Easy retrofit for existing mini-wastewater treatment plants

Functionality

1. Pre-treatment
All domestic wastewater is fed into the pre-treatment basin, which is designed as a two-chamber system. Mechanical pre-treatment occurs here, which means solids sink to the bottom and form sediment, while suspended solids are filtered out. The pre-treatment basin also acts as sludge tank.

2. Biological treatment
The pre-treated wastewater is then fed into the biological section of the system, which is located in the second chamber. Here, the wastewater is aerated in periodic intervals to add oxygen. Micro-organisms begin to form, which reduce the volume of harmful substances in the water. Aeration occurs via a bespoke, large-area pipe aerator, which is adapted to the shape of the tank. A biomass generator is located above the aerator, which ensures the growth of so-called ‘bio grass’ and therefore ensures continuous purification capacity.

3. Post-treatment
The biologically treated wastewater is then fed into the post-treatment basin via an overflow pipe. A custom sludge filter system and sludge retaining system manages the activated sludge in the biological part of the plant, and also stores the sludge in the pre-treatment basin. The treated water can then be fed into a receiving water, or infiltrated into the soil using compact modules (see Roth seepage system) in compliance with qualified water law permission.

Purification capacity

The mini-wastewater treatment plant Roth Micro-Step XL satisfies all legal requirements for mini-wastewater treatment plants. The plant satisfies Discharge Class C. Permit - What is important?

You will need an official permit from the building authority and your local water authority for the construction or upgrade of a wastewater treatment plant. These authorities will issue a permit for the introduction of treated wastewater in a receiving water or seepage into the soil. The Roth mini-wastewater treatment plant Micro-Step XL holds the building authority certification Z-55.3-230, which forms the basis for that permit.
Scope of delivery for the complete system

- Pre-treatment basin incl. Domed shafts and mounting accessories
- Combined biological and post-treatment tank incl. Domed shafts
- Biomass generator and aerator
- Controller and diaphragm compressor pre-assembled in a compact control cabinet
- 8 m air hose and pipe material for the installation in its standard configuration
- Sampling shaft

Retrofit

Fully functional, existing mini-wastewater treatment plants (e.g., three-chamber treatment systems) can be retrofitted to form a fully biological mini-wastewater treatment plant by installing the Micro-Step XL tank. The outflow from the existing mini-wastewater treatment plant is then fed into the combined biological and post-treatment tank. Furthermore, the installation of a pipeline for activated sludge return into the first chamber will be required.

Maintenance of mini-wastewater treatment plants

In accordance with legislation and the requirements for building inspection approval, the system must undergo maintenance twice a year. Maintenance must be carried out by a licensed service provider, and (depending on state requirements) wastewater samples are to be collected at the outflow – from the sampling shaft included in the scope of delivery.

<table>
<thead>
<tr>
<th>Fully organic Roth mini-wastewater treatment plants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>Complete system for up to 4 habitants</td>
</tr>
<tr>
<td>Complete system for up to 6 habitants</td>
</tr>
<tr>
<td>Complete system for up to 8 habitants</td>
</tr>
<tr>
<td>Retrofit set for up to 4 habitants</td>
</tr>
<tr>
<td>Retrofit set for up to 6 habitants</td>
</tr>
<tr>
<td>Retrofit set for up to 8 habitants</td>
</tr>
<tr>
<td>Extension set for inlet depths between 0.60 - 0.95 m (lower edge of the inlet)</td>
</tr>
<tr>
<td>Sampling shaft</td>
</tr>
</tbody>
</table>

See page 50 for information on commissioning
Why use seepage modules in mini-wastewater treatment plants?

The use of seepage modules in mini-wastewater treatment plants is preferred in installations without an option for feeding the treated wastewater into a receiving water.

The water, which is treated in a fully biological mini-wastewater treatment plant, is distributed in the soil across a large area via seepage. The low installation depth of the modules allows their implementation in areas with high groundwater levels. A minimum distance of 1 m to the groundwater level must be ensured. The seepage process requires a permit from the local water authority.

Setup

Seepage systems can be installed at virtually any location. The only requirement is a sufficiently large area to distribute the modules in the soil. The area above the modules remains fully usable and is vehicle-proof. Depending on the size of the existing mini-wastewater treatment plant, you will receive a pre-assembled and fully equipped seepage system. The system consists of individually combined block modules that come equipped with two DN 100 connection sleeves. Any number of blocks can be implemented in sequence. Each system will require a DN 100 aerator and ventilator. The blocks are pre-mounted and coated in geotextile, which means that all that remains is their introduction into the soil. Soil coverage of min. 80 cm will be required where the area is subsequently to be used for vehicle traffic. A soil coverage of 40 cm will suffice where that will not be the case.

Roth seepage system for fully organic Roth mini-wastewater treatment plants

<table>
<thead>
<tr>
<th>Model</th>
<th>Tank dimensions (L x W x H)</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roth seepage block 6.5 m² wall area</td>
<td>2400 x 1600 x 400 mm</td>
<td>1135006813</td>
</tr>
<tr>
<td>DN 100 aerator and ventilator for seepage module</td>
<td>2400 x 1600 x 400 mm</td>
<td>1135006659</td>
</tr>
</tbody>
</table>
**Function**

The treated water discharged from the treatment plant is fed into the seepage modules. These are covered with geotextile on the top and along the sides, which slows the flow of the water. The process ensures a wide-area and even water seepage.

**Installation**

No heavy machinery will be required for the installation, as the components are very light-weight. The seepage blocks simply need a horizontal contact area with the soil and sufficient time for seepage. Distribute the blocks on a 5 cm gravel layer.
Roth cesspits
with DIBt certification

Closed cesspits with DIBt certifications are required, where for purposes of water conservation no introduction of treated water is permitted, or where wastewater volumes are very low (allotment gardens, weekend homes). Roth cesspits come equipped with a DN 100 inflow pipe connection, and the scope of delivery includes a dome shaft system and a load-bearing cover. All generated wastewater is collected and stored in cesspits until disposal. Cesspit evacuation is done with a suction vehicle via the inspection shafts. Cesspit fill levels must be periodically checked and the pit must be evacuated as needed. The shaft provided has a diameter of 200 mm and a total length of 700 mm, and comes with a load-bearing cover. The shaft can be shortened as needed. A shaft extension using a DN 100 UD pipe is also possible. Additionally, a swan neck evacuation unit (see accessories) can be installed. The 1500 to 3000 litre cesspits are also offered with a DN 600 shaft as an alternative.

Cesspit evacuation unit
Steel pipe with DN 100 quick release coupling for the evacuation of closed cesspits. DN 100 UD 2000 pipe connection to the cesspit.
Mat. No. 1135006785

Cesspit fill level indicator
Optic and acoustic signal when max. fill level is reached. Incl. 15 m sensor cable.
Mat. No. 1135006784

Roth cesspits

<table>
<thead>
<tr>
<th>Model with DN 200 shaft</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cesspit (round) 1000 litre, with shaft and cover</td>
<td>90 kg</td>
<td>1135006779</td>
</tr>
<tr>
<td>Cesspit Twinbloc® 1500 litre, incl. DN 200 shaft and cover</td>
<td>100 kg</td>
<td>1135006780</td>
</tr>
<tr>
<td>Cesspit (round) 2000 litre, incl. DN 200 shaft and cover</td>
<td>160 kg</td>
<td>1135006781</td>
</tr>
<tr>
<td>Cesspit (round) 3000 litre, incl. DN 200 shaft and cover</td>
<td>200 kg</td>
<td>1135006782</td>
</tr>
<tr>
<td>Cesspit Twinbloc® 3500 litre, incl. DN 200 shaft and cover</td>
<td>140 kg</td>
<td>1135006783</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Model with DN 600 shaft</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cesspit Twinbloc® 1500 litre, incl. DN 600 shaft and cover</td>
<td>100 kg</td>
<td>1135006985</td>
</tr>
<tr>
<td>Cesspit (round) 2000 litre, incl. DN 600 shaft and cover</td>
<td>160 kg</td>
<td>1135006983</td>
</tr>
<tr>
<td>Cesspit (round) 3000 litre, incl. DN 600 shaft and cover</td>
<td>200 kg</td>
<td>1135006979</td>
</tr>
<tr>
<td>Cesspit Twinbloc® 3500 litre, incl. DN 600 shaft and cover</td>
<td>140 kg</td>
<td>1135006982</td>
</tr>
</tbody>
</table>
Roth cesspits
Dimensions at a glance

- Cesspit (round) 1000 litre

- Cesspit (round) 2000/3000 litre

- Cesspit Twinbloc® 1500/3500 litre

Dimensions in mm

Roth cesspits
Dimensions at a glance

- Cesspit (round) 1000 litre

- Cesspit (round) 2000/3000 litre

- Cesspit Twinbloc® 1500/3500 litre

Dimensions in mm
Roth wastewater tanks
for all wastewater

Closed cesspits are required, where for purposes of water conservation no introduction of treated water is permitted, or where wastewater volumes are very low (allotment gardens, weekend homes).

**Roth installation accessories - Insulation and bulking sheets**
For Roth wastewater tanks 1500 to 3000 litre (1 pack required per tank)
Mat. No. 1135006787

**Cesspit evacuation unit**
Steel pipe with DN 100 quick release coupling for the evacuation of closed wastewater tanks. DN 100 UD pipe connection to the wastewater tank.
Mat. No. 1135006785

**Roth wastewater tanks**

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (L x W x H) in mm</th>
<th>Weight</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wastewater tank 1000 litre, incl. shaft and cover</td>
<td>1235 x 720 x 1250 mm</td>
<td>36 kg</td>
<td>1135006788</td>
</tr>
<tr>
<td>Wastewater tank 1500 litre, incl. shaft and cover</td>
<td>1880 x 720 x 1480 mm</td>
<td>57 kg</td>
<td>1135006789</td>
</tr>
<tr>
<td>Wastewater tank 2000 litre, incl. shaft and cover</td>
<td>2020 x 880 x 1650 mm</td>
<td>90 kg</td>
<td>1135006790</td>
</tr>
<tr>
<td>Wastewater tank 3000 litre, incl. shaft and cover</td>
<td>2630 x 880 x 1650 mm</td>
<td>120 kg</td>
<td>1135006791</td>
</tr>
<tr>
<td>Wastewater tank Twinbloc® 5000 litre, incl. shaft and cover</td>
<td>2440 x 2300 x 1350 mm</td>
<td>170 kg</td>
<td>1135006792</td>
</tr>
<tr>
<td>Wastewater tank (round) 3500 litre, with shaft and cover</td>
<td>2070 x 1700 x 1830 mm</td>
<td>170 kg</td>
<td>1135006802</td>
</tr>
<tr>
<td>Wastewater tank (round) 4500 litre, with shaft and cover</td>
<td>2450 x 1765 x 1860 mm</td>
<td>250 kg</td>
<td>1135006803</td>
</tr>
<tr>
<td>Wastewater tank (round) 6000 litre, with shaft and cover</td>
<td>3120 x 1830 x 1920 mm</td>
<td>300 kg</td>
<td>1135006804</td>
</tr>
</tbody>
</table>

Wastewater tank fill level indicator
Optic and acoustic signal when max. fill level is reached. Incl. 15 m sensor cable.
Mat. No. 1135006784

Custom gasket
For additional connections on Roth wastewater treatment tanks and cesspits.

Custom gasket DN 50/100
Required bore hole 54/118 mm
Mat. No. (DN 50) 1135005454
Mat. No. (DN 100) 1135005455

All wastewater is collected and stored in cesspits until disposal. Cesspit evacuation is done with a suction vehicle via the inspection shafts. The shaft provided has a diameter of 200 mm and a total length of 700 mm, and comes with a load-bearing cover (other shaft diameters available on request). The shaft can be shortened as needed. A shaft extension using a DN 200 UD pipe is also possible. Additionally, a swan neck evacuation unit (see accessories) can be installed.
Roth wastewater tanks
Dimensions at a glance

- **Wastewater tank 1000/1500/2000/3000 litre**
- **Wastewater tank Twinbloc® 5000 litre**
- **Wastewater tank (round) 3500/4500/6000 litre**

Dimensions in mm

- Dimensions at a glance

**Mini-wastewater treatment plants and cesspits**

Rainwater utilisation

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Dimensions in mm
How does the system work?

Domestic wastewater flows through a multi-chamber system, where it is purified step by step. Heavy and floating matter is removed from the water in sedimentation tanks (mechanical effect). The activated sludge containing micro-organisms in septic tanks subsequently reduces the amount of organic waste in the water (partial biological effect). An additional treatment step involving an underground sprinkling system or organic treatment is optional.

Roth septic tanks come equipped with welded DN 100 pipe ends for inlet and outlet. The first tank in the system has an in-built gradient of 100 mm to prevent the backflow of floating sludge. The outflow T-connection prevents the flow-off of floating matter.

2000 and 3000 litre tanks are available as two-chamber versions with in-built partition wall. The "T" dimension is dependent on the depth of the inflow. Experience has shown that there is no frost hazard involved in fecal wastewater. Roth mini-wastewater treatment plants have been developed on the basis of German standards.

Dimensioning of the system

Mini-wastewater treatment plants for residential areas must be dimensioned in accordance with habitant numbers. As a basis for calculation, a 50 m² residential floorspace should be counted as having at least 4 habitants. Sedimentation tanks must have 300 litres volume per habitant, but at least 3000 litres total volume and consist of 2 chambers, or 3 chambers for tanks from 4000 litres volume. Septic tanks must have 1500 litres volume per habitant, but at least 6000 litres total volume and consist of 3 chambers.

System operation and maintenance

Mini-wastewater treatment plants are filled with water during normal operation. The inflow must contain only domestic wastewater from the kitchen, bathroom, toilet, and washing machine, i.e. no sewage.
Roth mini-wastewater treatment plants with partial biological effect

<table>
<thead>
<tr>
<th>Model</th>
<th>Inlet T1</th>
<th>Outlet T2</th>
<th>Dimensions (L x W x H)</th>
<th>Weight</th>
<th>Mat. No.:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500 litre</td>
<td>260 mm</td>
<td>360 mm</td>
<td>1880 x 720 x 1480 mm</td>
<td>59 kg</td>
<td>1115001658</td>
</tr>
<tr>
<td></td>
<td>260 mm</td>
<td>360 mm</td>
<td>1880 x 720 x 1480 mm</td>
<td>59 kg</td>
<td>1115001659</td>
</tr>
<tr>
<td></td>
<td>260 mm</td>
<td>360 mm</td>
<td>1880 x 720 x 1480 mm</td>
<td>59 kg</td>
<td>1115001661</td>
</tr>
<tr>
<td>2000 litre</td>
<td>230 mm</td>
<td>330 mm</td>
<td>2020 x 880 x 1650 mm</td>
<td>92 kg</td>
<td>1135000723</td>
</tr>
<tr>
<td></td>
<td>230 mm</td>
<td>330 mm</td>
<td>2020 x 880 x 1650 mm</td>
<td>92 kg</td>
<td>1135000727</td>
</tr>
<tr>
<td>2000 litre two-chamber</td>
<td>230 mm</td>
<td>330 mm</td>
<td>2020 x 880 x 1650 mm</td>
<td>94 kg</td>
<td>1135000725</td>
</tr>
<tr>
<td></td>
<td>230 mm</td>
<td>330 mm</td>
<td>2020 x 880 x 1650 mm</td>
<td>94 kg</td>
<td>1135000726</td>
</tr>
<tr>
<td>3000 litre</td>
<td>230 mm</td>
<td>330 mm</td>
<td>2630 x 880 x 1650 mm</td>
<td>122 kg</td>
<td>1135000729</td>
</tr>
<tr>
<td></td>
<td>230 mm</td>
<td>330 mm</td>
<td>2630 x 880 x 1650 mm</td>
<td>122 kg</td>
<td>1135000734</td>
</tr>
<tr>
<td>3000 litre two-chamber</td>
<td>230 mm</td>
<td>330 mm</td>
<td>2630 x 880 x 1650 mm</td>
<td>124 kg</td>
<td>1135000731</td>
</tr>
<tr>
<td></td>
<td>230 mm</td>
<td>330 mm</td>
<td>2630 x 880 x 1650 mm</td>
<td>124 kg</td>
<td>1135000733</td>
</tr>
</tbody>
</table>

Shaft length 630 mm Ø 315 mm
For tanks 1500 to 3000 litre
(2 required per tank)
Mat. No. 11150006786

Roth installation accessories - insulation and bulking sheets
For Roth septic tanks and cesspits
(1 pack required per tank)
Mat. No. 11350006787

rainwater or other wastewater from industry or agriculture. Mini-wastewater treatment plants require periodic maintenance. A relevantly certified service provider must be tasked with the removal of the sludge. Sedimentation tanks must be fully evacuated at least once a year. Septic tanks must be evacuated of sludge in two-year intervals. Compliance with the operating and maintenance instructions for Roth mini-wastewater treatment plants and cesspits is mandatory.
Notes
Our strengths
Your benefits

### Innovation
- Early identification of market requirements
- In-house materials research and development
- In-house engineering

### Service
- Extensive field network of qualified sales professionals
- Hotline and project planning service
- Factory training courses, planning and product seminars
- Fast availability of all Roth brand product ranges throughout Europe
- Comprehensive warranty and extended liability agreements

### Products
- Complete range of easy-to-install product systems
- Manufacturing expertise for the complete product range within the Roth Industries group of companies
- All products and product systems are certified in accordance with DIN EN ISO 9001:2008