

Energy Systems

Rainwater recycling, small sewage plants and collecting pits



**Benefiting both people
and nature**



Living full of energy

By using rainwater and small sewage plants, we can play a hugely significant role in conserving our water resources and shaping our daily lives in an environmentally friendly and economic way.





Collecting, storing, infiltrating and purifying water providing an effective way of relieving pressure on the environment

■ **Rain is valuable to both people and nature**

Rainwater has many different uses, from watering lawns, hedges, shrubs and flowers to filling ponds, artificial streams and wells to cleaning patios, roads, yards and steps around the house.

The result is that the plants are happy thanks to the soft, non-calciferous water, a huge amount of drinking water is saved and costs are reduced – a worthwhile aim from an ecological and economic perspective.

■ **The biological value of domestic wastewater**

The aim of wastewater treatment is to return water to nature without polluting it. Domestic wastewater comes from the kitchen, bathroom, toilet and washing machine on a daily basis, and this can be brought back into the natural water cycle in a purified form.

Whether in the form of infiltration or discharge into a body of flowing water, the result is a win for our environment.

Production processes

cutting-edge technology for modern products



■ Decades of experience

Roth uses one of the world's largest blow moulding lines to manufacture its tanks. This makes it possible to produce single-piece tanks with a capacity of up to 10,000 litres. Roth has been working with plastics and producing tanks for decades. We use this expertise to tailor our products perfectly to customers' needs:

- > We use the latest process technology available for controlling and monitoring machinery to ensure the best possible quality and optimal wall thickness distribution.
- > All tanks are made from a single piece to avoid the weak spots created by joints involving welding, screws or clamps.

■ High-quality polyethylene

Roth only uses high-quality and high-density polyethylene (PE-HD) when making its tanks. This provides a number of advantages compared to concrete, GRP or other plastics:

- > high resistance to impact
- > mechanical load-bearing capacity
- > physiologically harmless
- > completely smooth interiors
- > colouring throughout the material stops the build-up of algae and prevents colour washing out
- > easy installation without the need for heavy-duty technology
- > easy to clean
- > 100% watertight thanks to seamless manufacture
- > as PE is weldable, it favours a fast response to customer requirements and makes it easy, for example, to produce additional components

■ The ultimate in quality

The manufacturing process for Roth tanks is subject to the highest quality specifications. All processes, from the selection and procurement of materials right through to delivery, undergo constant monitoring to ensure customers receive their products in perfect condition.

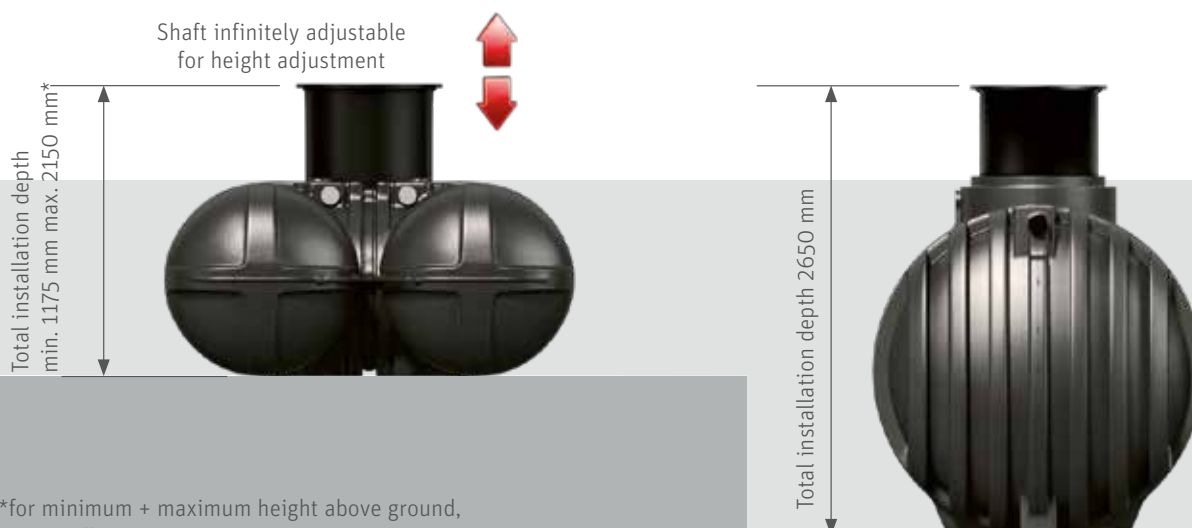
■ Warranty

There is a **20-year** manufacturer's warranty on all tanks for either underground or above-ground installation. This excludes accessories, even if they are included in package prices. We provide free replacement of material within the warranty period; other services are excluded. Warranty services are dependent on proper handling, assembly and installation in accordance with our installation instructions.



The Roth Twinbloc® low-profile storage tank

Advantages at a glance



■ Installation benefits thanks to extra flat construction

Thanks to its excellent construction and extremely low-profile design, the Roth low-profile storage tank offers considerable advantages in terms of installation. Compared to traditional rainwater tanks, the excavation work required for the pit can be reduced by up to 40%.

Due to the shallow construction, it can even be installed at sites with a very high groundwater level. The two parallel cylinders result in additional stability. Two tank chambers with smaller diameters are significantly more stable than a single chamber with a large diameter. This allows for the surface above to be configured freely (e.g. car-proof). The tanks are available in 1500, 3500 and 5000-litre sizes in the respective equipment lines.

■ What has Roth got to offer with the tank concept

With a joined-up and optimised tank concept, including the appropriate accessories, the customer gets a complete system for professional rainwater utilisation. The perfectly matched components help make installation both quick and easy.

A flexible approach can be adopted to suit individual requirements and different conditions on the ground, making it possible to offer the right solution for almost any application.

■ Car-proof

The Roth Twinbloc® low-profile storage tanks are car-proof. For this, the “Roth shaft cover, car-proof” must also be ordered from the accessory range. The installation instructions must be referred to without exception if the surface of the tanks is to be driven over by cars.

■ Linking tanks

Multiple tanks are linked together via a DN 100 ground channel pipe at the lower drilling surfaces. The Roth connection set includes the appropriate hole saw and two DN 100 special seals.





Rainwater recycling



Roth Twinbloc® low-profile storage tank

for ground installation with integrated dome shaft

- > environmentally friendly
- > cost-reducing
- > effective
- > easy to install



■ Roth low-profile rainwater storage tank

The Roth Twinbloc® ground tank is available in 1500, 3500 and 5000-litre sizes. The PE tanks are stable in the ground and can be driven over by cars (for car-proof cover, see accessories).

The DN 600 dome shaft is supplied within the scope of delivery with every tank as standard. The dome shaft is completely inserted into the tank at the time of delivery and can be adjusted to any excavation depth.

A DN 100 empty pipe connection is available to connect the supply lines.

■ Ground tank

- > Twinbloc® ground tank with integrated dome shaft system
- > plastic cover which can be walked over
- > DN 100 inflow connection
- > DN 100 overflow siphon with a barrier for small animals.

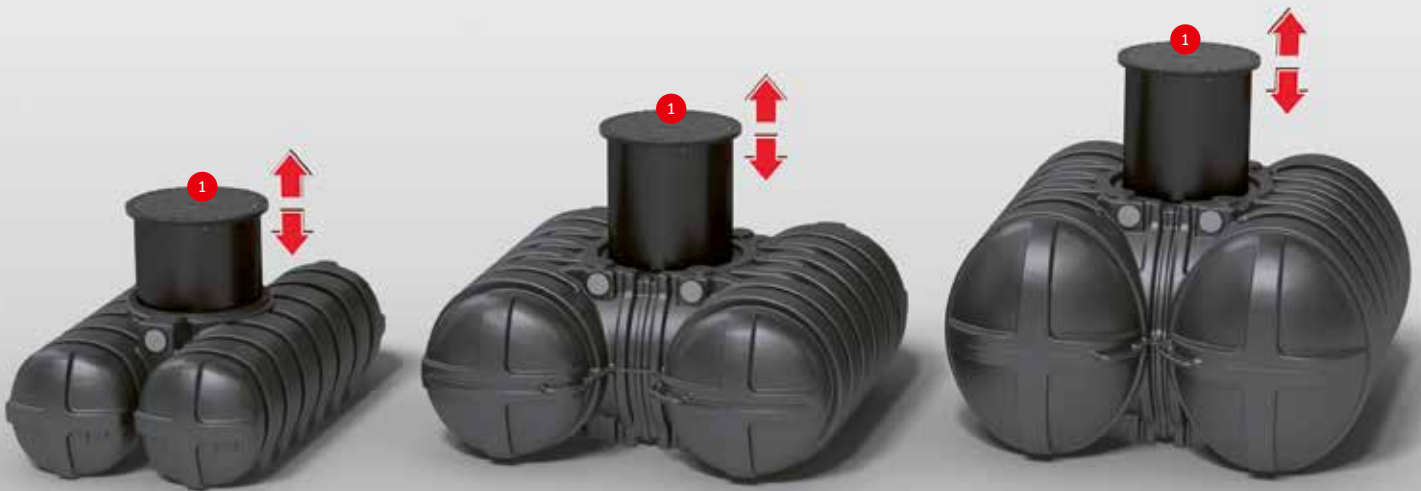
■ Ground tank with filter cage

- > Roth Twinbloc® ground tank with filter cage integrated into the dome shaft
- > plastic cover which can be walked over
- > DN 100 inflow connection on the dome shaft
- > DN 100 overflow siphon with a barrier for small animals.

Please refer to the subsequent pages for details of the many accessories available as part of the Roth rainwater range.

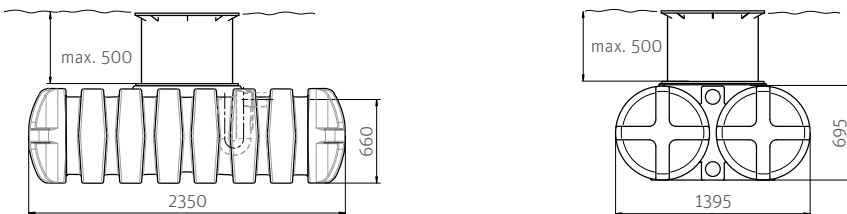
Roth Twinbloc® low-profile storage tank

| Model | Tank dimensions [mm] L x W x H | Weight [kg] | Material No. |
|---|-----------------------------------|----------------|--------------|
| Ground tank of 1500 litre capacity, including DN 600 shaft and cover | 2350 x 1395 x 695 | 80 | 1135006122 |
| Ground tank of 3500 litre capacity, including DN 600 shaft and cover | 2350 x 2300 x 975 | 140 | 1135005425 |
| Ground tank of 5000 litre capacity, including DN 600 shaft and cover | 2460 x 2350 x 1350 | 190 | 1135005426 |
| Ground tank of 1500 litre capacity with filter cage including DN 600 shaft and cover | 2350 x 1395 x 695 | 80 | 1135006124 |
| Ground tank of 3500 litre capacity with filter cage including DN 600 shaft and cover | 2350 x 2300 x 975 | 140 | 1135005423 |
| Ground tank of 5000 litre capacity with filter cage including DN 600 shaft and cover | 2460 x 2350 x 1350 | 190 | 1135005424 |

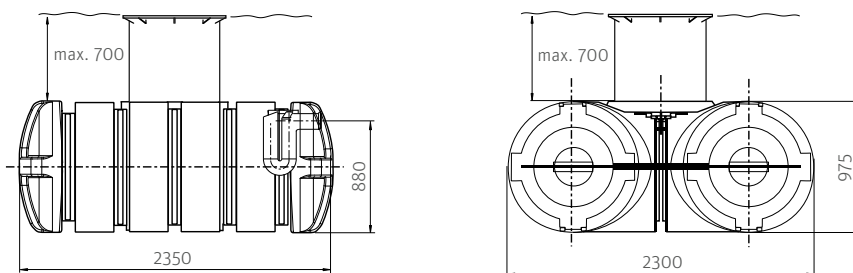


1 The dome shaft can be adapted in accordance with the installation depth as required.

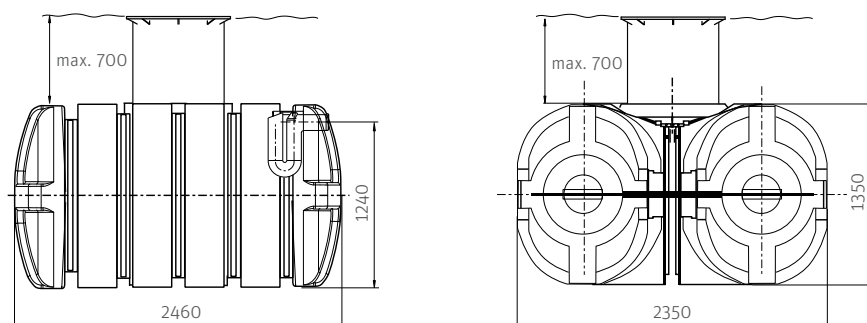
■ Roth 1500 l low-profile storage unit



■ Roth 3500 l low-profile storage unit



■ Roth 5000 l low-profile storage unit



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

Dimensions in mm

Accessories

for Roth Twinbloc® low-profile storage units



Roth shaft cover, car-proof (600 kg wheel load)

As replacement for the cover included in the scope of delivery. Wheel load bearing capacity of up to 600 kg.

Mat. No. 1135005438



Roth shaft extension for Twinbloc® low-profile storage tanks

500 mm long shaft extension for connection to the integrated shaft system. For installing tanks between 700 and 1200 mm below ground. The shaft extension can be shortened.

Mat. No. 1135005436



Roth cartridge filter upgrade package

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 including accessories for installation in the dome shaft of the Roth Twinbloc® low-profile storage tank.

Mat. No. 1135006450



Roth garden filter upgrade package

Comprising filter basket and connection accessories for installation in the dome shaft system of Roth ground storage tanks. The mesh size of the filter basket is 1 mm.

Mat. No. 1135006452



Roth filter for ground installation for roof surfaces up to 350 m²

Filter for ground installation, used to connect multiple DN 100 rainfall pipes, complete with telescopic extension and stainless steel filter cartridge, mesh size: 0,55 mm.

Mat. No. 1135006453



Roth filter for ground installation for roof surfaces up to 200 m²

Filter for ground installation, used to connect multiple DN 100 rainfall pipes, complete with telescopic extension and stainless steel filter cartridge, mesh size: 0,28 mm.

Mat. No. 1135006654



Roth inflow slowing upgrade package

For retrofitting to Roth Twinbloc® low-profile storage tanks. Comprising DN 100 UD pipe and inflow slowing.

Mat. No. 1135006673



Roth floating withdrawal for Roth Twinbloc® low-profile storage tank

Floating withdrawal, comprising PE ball float, suction filter with integrated brass non-return valve and clamp fitting for 1" PE water pipe. The floating withdrawal is assembled ready for installation. The special hose is 1,30 m.

Mat. No. 1135005437



Roth connection set

For connecting Roth ground storage tanks with DN 100 UD pipe; set comprises hole saw and 2 DN 100 special seals.

Mat. No. 1135002725



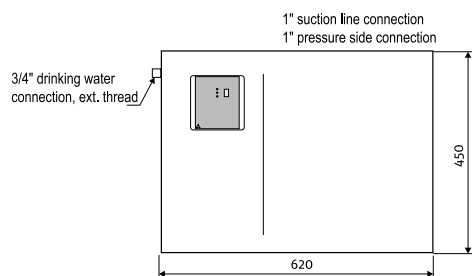
Roth digital fill-level indicator

Electro-pneumatic tank content display device comprising a battery-operated analysis device with digital display and 15 m measuring line. The measurement display shows litres, % and filling level (cm).

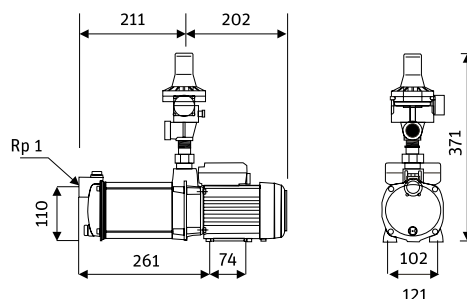
Mat. No. 1135008052


Roth ROP Comfort pump module

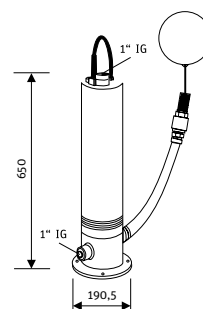
Complete module with integrated ASPRI 15-4 domestic water supply system and backfeed directly to the pump without going via the tank. With removable cover and electronic level indicator. Max. delivery height of pump 42 m; max. delivered volume 3,5 m³/h; max. suction height 3 m and max. suction line length 15 m.

Mat. No. 1135006049

Roth ASPRI 15-4 domestic water supply system

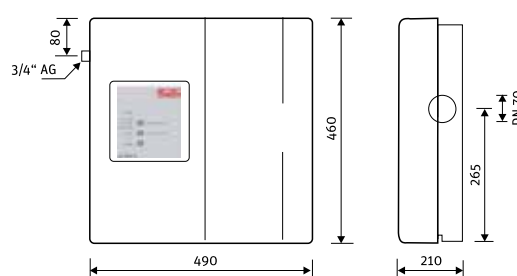
4-stage horizontal centrifugal pump, self-priming with integrated protection against running dry, power consumption 700, max. delivery height 42 m, delivered volume 3,5 m³/h, suction height 3 m, max. suction line length 15 m, scope of delivery includes pump connection set and pump console.

Mat. No. 1135002726

Roth Combipress immersion pressure pump

Complete water supply package for equipment that makes use of rainwater: Underwater motorised pump for fully or partially submerged permanent operation, submersion depth maximum 20 m, including KIT O2 circuit breaker and floating withdrawal. Can be used in conjunction with the Roth RON Comfort backfeed module. Maximum delivery rates 6 m³/h; maximum delivery height 55 m; operating pressure 2,4 bar; maximum system discharge pressure 10 bar and maximum system height 20 m.

Mat. No. 1135006054

Roth RON Comfort backfeed module

Fully automatic electronic control unit for drinking water backfeed directly to the pump according to requirements and conforming to DIN, integrated level indicator, function monitoring with alarm function, regular water changes, free outflow in accordance with DIN and fully recyclable.

Mat. No. 1135006055

Roth immersion pump

Multi-stage medium-cooled immersion pump for homes and gardens. The pump has an integrated flow monitor with an electronic function to switch the pump on and off automatically. The integrated flow monitor ensures safe shutdown should the tank run dry, delivered volume maximum 5,7 m³/h, max. system height 20 m, maximum system pressure 3,6 bar and maximum immersion depth 8 m.

Mat. No. 1135006061

Roth standard pump module

Complete module with integrated domestic water supply system and backfeed directly to the pump without going via the tank. Max. delivery height of pump 36 m; max. delivered volume 3 m³/h; max. suction height 3 m and max. suction line length 15 m.

Mat. No. 1135006670

Domestic technology package I

Complete package for rainwater recycling with the pump in the house



■ Roth domestic technology package I

Roth complete rainwater systems are offered with or without a pump module featuring an integrated domestic water backfeed function. Their most notable features are the ultra-flat

design and the associated installation benefits. The rainwater is collected from the roof, channelled through the downpipe to the underground tank, purified in the integrated fine filter and flows into the underground tank along the flow-controlled inflow pipe.

In normal operation, the rainwater is withdrawn from the underground tank by a special suction set and supplied to the points of consumption. In periods of drought, the rainwater control unit switches automatically to drinking water supply mode.

■ Components



Roth Twinbloc®

Ground rainwater storage tank in ultra-flat design with integrated extendible dome shaft system, inflow slowing device and overflow siphon with barrier for small animals.



Roth cartridge filter upgrade package

For installation in rainwater storage tanks for roof surfaces up to 150 m², mesh size 0,55 mm.



Roth floating withdrawal

Floating withdrawal, comprising PE ball float, suction filter with integrated brass non-return valve and clamp fitting for 1" PE water pipe.



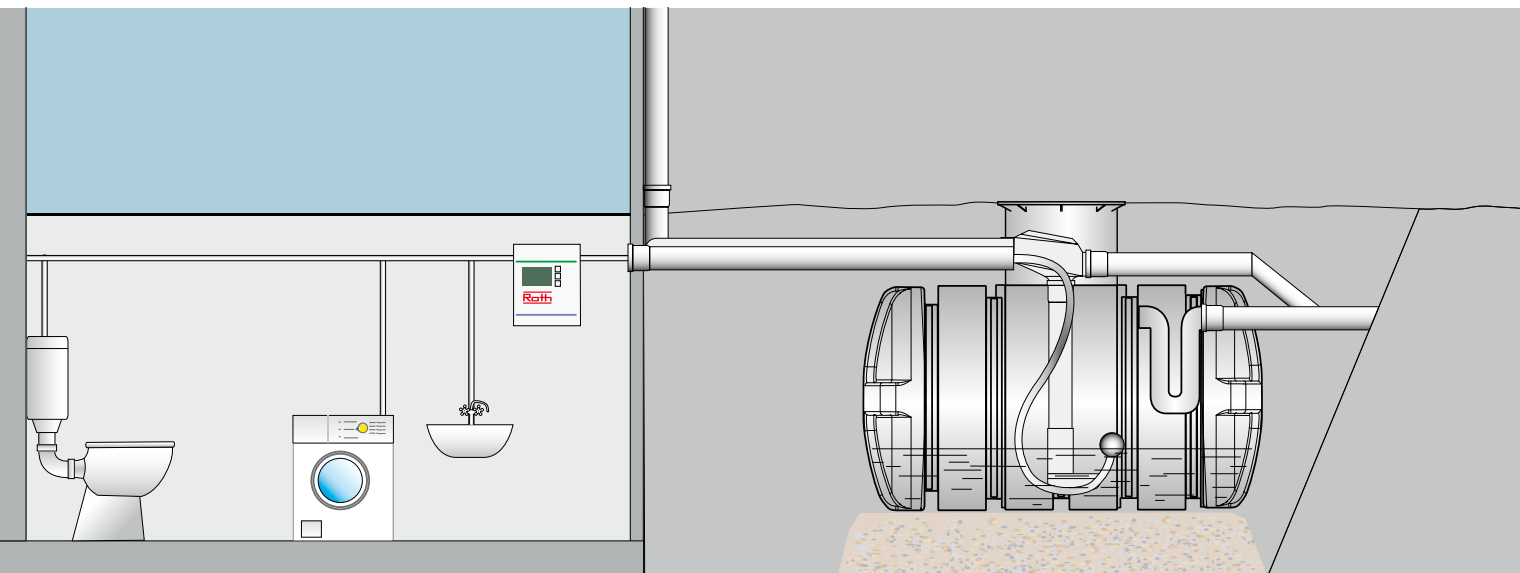
Roth ROP Comfort pump module (optional)

Complete module with integrated ASPRI 15-4 domestic water supply system and backfeed directly to the pump. Max. delivery height 42 m; max. suction line length 15 m; max. suction height 3 m.

Roth domestic technology package I

| Model | Dimensions of tank [mm] L x W x H | Max. installation depth ¹⁾ [mm] | Weight [kg] | Material No. |
|---|--------------------------------------|---|----------------|--------------|
| 3500 litres with pump module | 2350 x 2300 x 975 | 1675 | 140 | 1135006032 |
| 5000 litres with pump module | 2460 x 2350 x 1350 | 2050 | 190 | 1135006033 |
| 7000 litres with pump module | 2x 2350 x 2300 x 975 | 1675 | 2x 140 | 1135006034 |
| 10000 litres with pump module | 2x 2460 x 2350 x 1350 | 2050 | 2x 190 | 1135006035 |
| 3500 litres without pump module | 2350 x 2300 x 975 | 1675 | 140 | 1135006048 |
| 5000 litres without pump module | 2460 x 2350 x 1350 | 2050 | 190 | 1135006050 |
| 7000 litres without pump module | 2x 2350 x 2300 x 975 | 1675 | 2x 140 | 1135006051 |
| 10000 litres without pump module | 2x 2460 x 2350 x 1350 | 2050 | 2x 190 | 1135006052 |

¹⁾ max. extension 500 mm



■ Roth ECO domestic technology package – the affordable alternative

The ECO domestic technology package comprises a tank with DN 600 dome

shaft and cover that can be walked on, integrated filter in the shaft, inflow slowing device, floating withdrawal and the Roth standard pump module. All components are coordinated with each other and offer

a functional complete system for domestic use in a detached house.

■ Components



Roth Twinbloc®

Ground rainwater storage tank in ultra-flat design with integrated extendible dome shaft system, inflow slowing device and overflow siphon with barrier for small animals.



Roth ECO Rainwater Filter

Rainwater filter with integrated dirt collection basket for installation in the rainwater storage tank. Mesh size of the filter 1 mm, suitable for roof surfaces up to 200 m².



Roth floating withdrawal

Floating withdrawal, comprising PE ball float, suction filter with integrated brass non-return valve and clamp fitting for 1" PE water pipe.



Roth standard pump module

Complete module with integrated domestic water supply system and backfeed directly to the pump without going via the tank. Max. delivery height of pump 36 m; max. delivered volume 3 m³/h; max. suction height 3 m and max. suction line length 15 m.



Roth inflow slowing device

Prevents the sediment layer from swirling up and ensures a steady inflow of rainwater within the ground storage tank.

Roth ECO domestic technology package

| Model | Dimensions of tank [mm] L x W x H | Max. installation depth ¹⁾ [mm] | Weight [kg] | Material No. |
|--|--------------------------------------|---|----------------|--------------|
| Domestic technology package ECO 3500 litre | 2350 x 2300 x 975 | 1675 | 140 | 1135008038 |
| Domestic technology package ECO 5000 litre | 2460 x 2350 x 1350 | 2050 | 190 | 1135008039 |

¹⁾ max. extension 500 mm

Domestic technology package II

Complete package for rainwater recycling with the pump in the storage tank



■ Roth domestic technology package II

The Roth domestic technology package II is primarily suitable for use when there are substantial distances between the cistern and points of consumption. The Combipress immersion pressure pump with integrated

floating withdrawal combines with the Roth backfeed module to create a complete water supply package. The pump automatically switches on when a point of consumption is opened. When all consumers are closed,

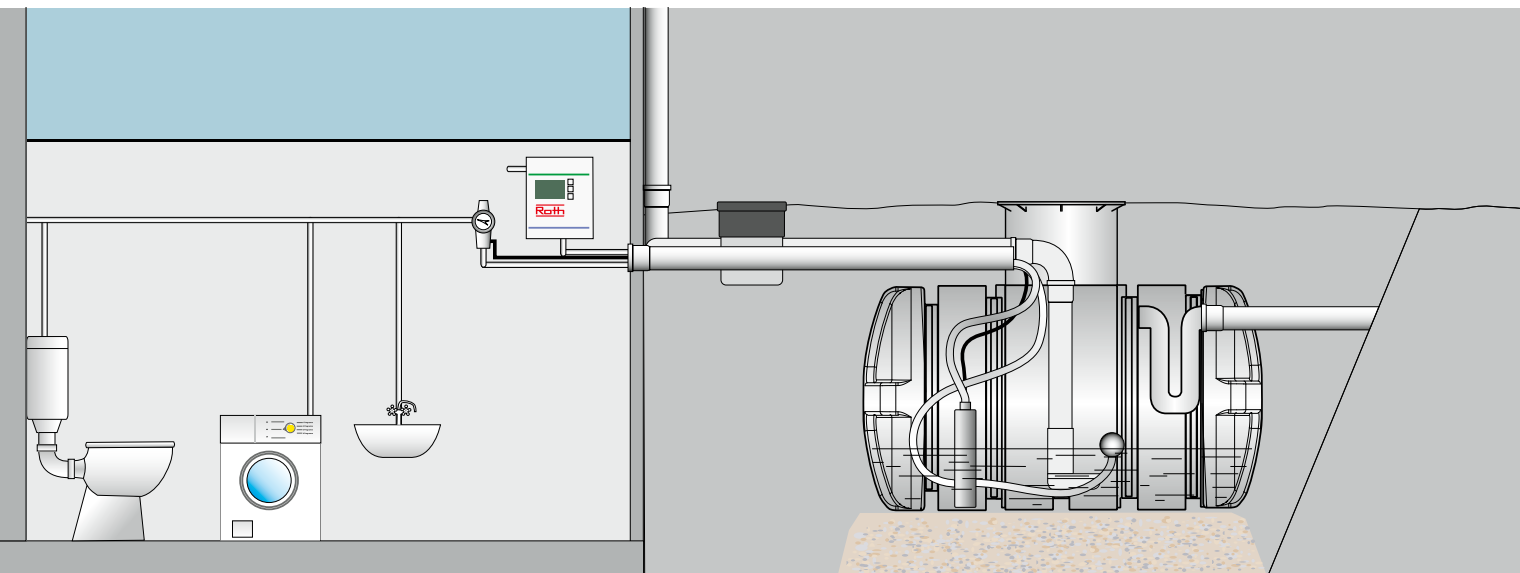
the pump automatically switches off. The maximum delivery height is 64 m.

The domestic technology packages II are suitable for use for roof surfaces up to 350 m².



| Roth domestic technology package II | | | | |
|---|--------------------------------------|---|----------------|--------------|
| Model | Dimensions of tank [mm] L x W x H | Max. installation depth ¹⁾ [mm] | Weight [kg] | Material No. |
| 3500 litres with pump and backfeed | 2350 x 2300 x 975 | 1675 | 140 | 1135006036 |
| 5000 litres with pump and backfeed | 2460 x 2350 x 1350 | 2050 | 190 | 1135006037 |
| 7000 litres with pump and backfeed | 2x 2350 x 2300 x 975 | 1675 | 2x 140 | 1135006038 |
| 10000 litres with pump and backfeed | 2x 2460 x 2350 x 1350 | 2050 | 2x 190 | 1135006039 |
| 3500 litres without pump and backfeed | 2350 x 2300 x 975 | 1675 | 140 | 1135006053 |
| 5000 litres without pump and backfeed | 2460 x 2350 x 1350 | 2050 | 190 | 1135006056 |
| 7000 litres without pump and backfeed | 2x 2350 x 2300 x 975 | 1675 | 2x 140 | 1135006057 |
| 10000 litres without pump and backfeed | 2x 2460 x 2350 x 1350 | 2050 | 2x 190 | 1135006058 |

¹⁾ max. extension 500 mm



■ Components



Roth Twinbloc®

Ground rainwater storage tank in ultra-flat design with integrated extendible dome shaft system, inflow slowing device and overflow siphon with barrier for small animals.



Roth filter for ground installation for roof surfaces up to 350 m²

Roth filter for ground installation with telescopic extension for roof surfaces up to 350 m², mesh size 0,55 mm.



Roth Combipress immersion pressure pump (optional)

Pump with integrated floating withdrawal and KIT O2 circuit breaker for installation in the tank, maximum delivery height 55 m.



Roth RON Comfort backfeed module (Option)

Fully automatic electronic control unit for drinking water backfeed directly to the pump according to requirements and conforming to DIN, integrated level indicator.

Garden package

Complete package for garden use



■ Roth garden package

Roth garden packages store water for your garden. The tanks are equipped with a DN 600 dome shaft with a plastic cover which can be walked over and an integrated

filter cage. The filter cage must be cleaned by the plant operator at regular intervals. Rainwater is extracted by the pump, which can be installed directly in the tank.

The garden system can be extended easily with multiple tanks.

■ Components



Roth Twinbloc®

Ground rainwater storage tank in ultra-flat design with integrated extendible dome shaft system, filter cage and overflow siphon with barrier for small animals.



Roth filter basket

Filter cage integrated in the dome shaft of the tank for purifying the collected rainwater, mesh size 1 mm.



Roth extraction set for the garden

Comprising a small ground shaft with cover, 1/2" hose connection, a ball valve and a 10 m high-pressure spiral hose.



Roth immersion pump (optional)

The pump has an integrated flow monitor with an electronic function to switch the pump on and off automatically and ensure safe shutdown should the tank run dry.

Roth garden package

| Garden package version | Dimensions of tank [mm] L x W x H | Max. installation depth ¹⁾ [mm] | Weight [kg] | Material No. |
|--|--------------------------------------|---|----------------|--------------|
| 1500 litres with immersion pump | 2350 x 1395 x 695 | 1330 | 80 | 1135006126 |
| 3500 litres with immersion pump | 2350 x 2300 x 975 | 1675 | 140 | 1135006040 |
| 5000 litres with immersion pump | 2460 x 2350 x 1350 | 2050 | 190 | 1135006041 |
| 7000 litres with immersion pump | 2x 2350 x 2300 x 975 | 1675 | 2x 140 | 1135006042 |
| 10000 litres with immersion pump | 2x 2460 x 2350 x 1350 | 2050 | 2x 190 | 1135006043 |
| 1500 litres without immersion pump | 2350 x 1395 x 695 | 1330 | 80 | 1135006125 |
| 3500 litres without immersion pump | 2350 x 2300 x 975 | 1675 | 140 | 1135006044 |
| 5000 litres without immersion pump | 2460 x 2350 x 1350 | 2050 | 190 | 1135006045 |
| 7000 litres without immersion pump | 2x 2350 x 2300 x 975 | 1675 | 2x 140 | 1135006046 |
| 10000 litres without immersion pump | 2x 2460 x 2350 x 1350 | 2050 | 2x 190 | 1135006047 |

Roth Monobloc rainwater ground storage tank

perfect for all gardens

- > perfectly compact
- > ideal for allotments and week-end homes
- > includes dome shaft system and cover that is strong enough to walk on



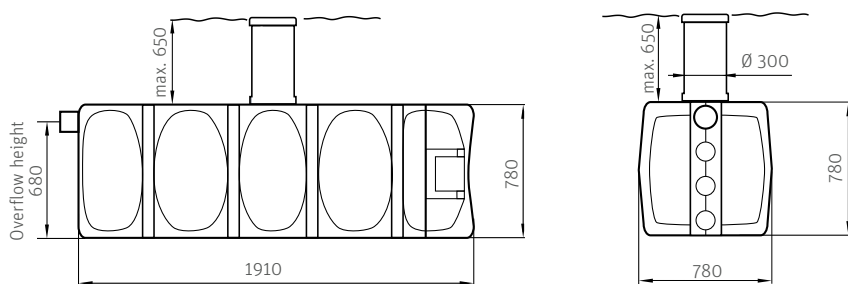
■ Roth Monobloc rainwater ground storage tank

The Roth Monobloc 900 ground rainwater storage tank is ideal for smaller plots. Its compact design makes it particularly suitable for cramped conditions, and it can be used on even the smallest plots.

The tank comes as standard with a dome shaft with a diameter of 300 mm and a cover which can be walked on. It has a DN 100 inlet opening and a DN 100 overflow connection piece.

Our various downpipe filters can be used as filters. The water can be extracted via the dome shaft system by means of an immersion pump. A DN 100 empty pipe connection on the tank saddle is also available. Further connections can be created using the Roth special seal (see accessories).

■ Roth 900-litre Monobloc including shaft and cover



Dimensions in mm

Roth Monobloc rainwater ground storage tank

| Model with shaft | Weight [kg] | Dimensions of tank [mm] L x W x H | Material No. |
|---|-------------|--------------------------------------|--------------|
| Monobloc 900-litre collection tank, including shaft and cover | 70 | 1910 x 780 x 780 | 1135007649 |

Roth infiltration and treatment systems for modern rainwater management



■ Rainwater retention and infiltration

Cities and local authorities are increasingly charging fees for rainwater discharge into public sewer systems and, in the case of new buildings, for the infiltration of rainwater on the property. The Roth infiltration system for rainwater infiltration and retention on plots of land is a flexible and inexpensive solution that meets all the requirements of municipalities and water legislation, offering various possibilities when it comes to modern rainwater management for the infiltration,

retention and use of rainwater.

In addition to the extremely practical prefabricated infiltration blocks in 600 and 1200-litre sizes for the private sector, the system can also be used for project-related applications in the commercial and municipal sector for all types of modern rainwater drainage.

■ The advantages of the Roth infiltration system

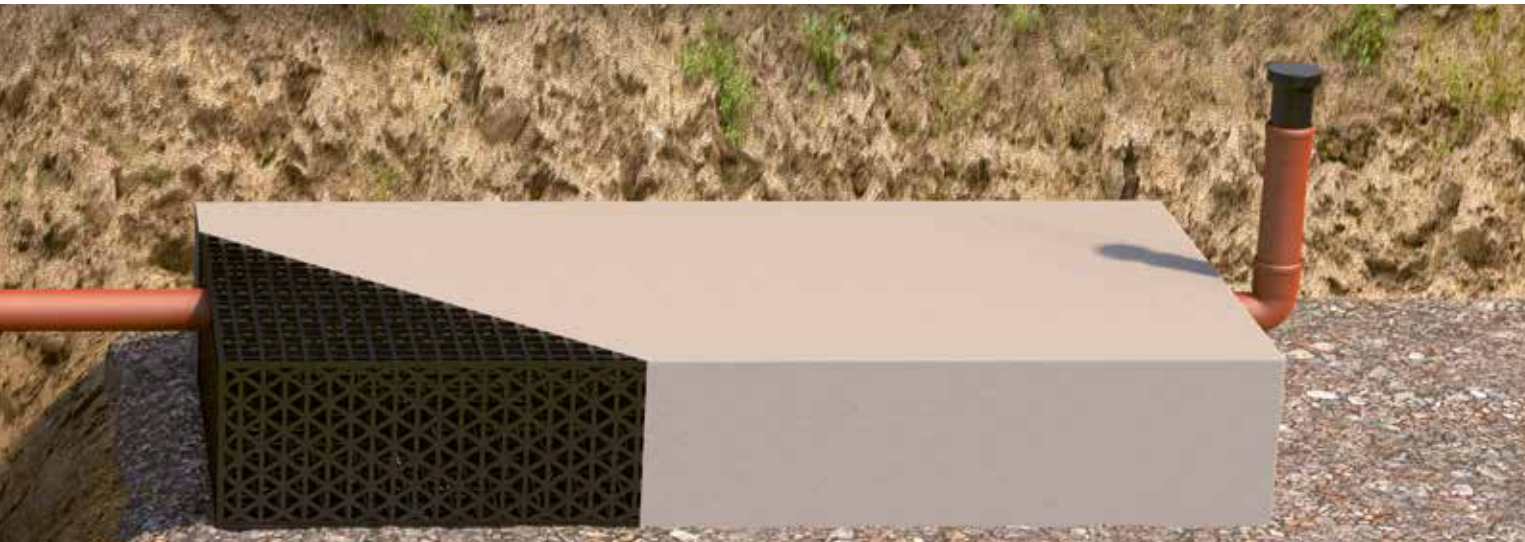
- > prefabricated complete systems for any private garden.
- > the infiltration performance can be dimensioned flexibly in accordance with ATV-A 138 by arranging the blocks side by side.
- > car-proof at 0,80 m below ground
- > sheathed in geotextile
- > ready for connection
- > functionally reliable
- > low installation depth

Recommended dimensioning in accordance with ATV-A 138

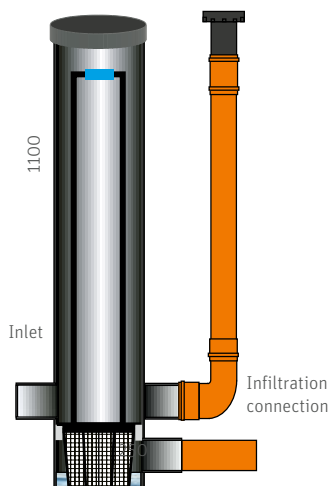
| Soil type | | Number of infiltration blocks | Connected roof surface | | |
|-------------|--------------------------|-------------------------------|---|--|---|
| | | | 100 m ² | 200 m ² | 300 m ² |
| Coarse sand | $k_f = 1 \times 10^{-3}$ | | 2 x 600 litres or 1 x 1200 litres | 4 x 600 litres or 2 x 1200 litres | 6 x 600 litres or 3 x 1200 litres |
| Medium sand | $k_f = 1 \times 10^{-4}$ | | 4 x 600 litres or 2 x 1200 litres | 6 x 600 litres or 3 x 1200 litres | 10 x 600 litres or 5 x 1200 litres |
| Fine sand | $k_f = 1 \times 10^{-5}$ | | 6 x 600 litres or 3 x 1200 litres | 10 x 600 litres or 5 x 1200 litres | 14 x 600 litres or 7 x 1200 litres |
| Silty sand | $k_f = 1 \times 10^{-6}$ | | 8 x 600 litres or 4 x 1200 litres | 12 x 600 litres or 6 x 1200 litres | 24 x 600 litres or 12 x 1200 litres |

Roth Infiltration Systems

| Product | Tank dimensions [mm] L x W x H | Weight [kg] | Material No. |
|--|-----------------------------------|-------------|--------------|
| Roth infiltration block 600 litres | 1200 x 1200 x 400 | 35 | 1135006655 |
| Roth infiltration block 1200 litres | 2400 x 1200 x 400 | 67 | 1135006656 |
| DN 250 fine mesh filter shaft with cover | 1400 | 19 | 1135006657 |
| Aerator and vent for infiltration block | | | 1135006659 |



Roth fine mesh filter shaft



Roth Hydrosystem 400 roof for treating rainwater on metal roofs

Special rainwater filter for installation directly into the soil for roof surfaces up to 175 m². This type of filter works with an upflow method so that there is hardly any difference in height from the inlet to the outlet. The purified water is of an excellent quality. The rainwater is purified in the filter shaft by means of the following basic procedural operations: sedimentation, adsorption, filtration and chemical precipitation.

For this, the incoming underground pipe is first channelled into the lower part of the shaft with a drop.

The rainwater is discharged tangentially into the hydrodynamic separator. This causes the sedimentation of particles in a radial flow regime shaped by secondary flows. Due to the effect of the separator, particles pass into the steady-flow sludge trap positioned below the separator funnel. Above the separation chamber is the filter cartridge, which covers the entire housing diameter. It is filtered in the upflow method.

Components



Roth aerator and vent for infiltration block

Aeration and ventilation element for installation in DN 100 UD pipe. Height approx. 500 mm. One unit required per system.

Mat. No. 1135006659



Roth Hydrosystem 400 roof

Rainwater filter in accordance with DIN 1989-2, type B; connections: DN 100 including telescopic extension.

Mat. No. 1135007650

Roth retention tank for ground installation with dome shaft and cover



■ Roth retention tank

Roth retention tanks are available in 3500, 5000 and 6000-litre sizes. All tanks offer a rainwater usable volume and retention volume of 50% each. The tank is formed in one piece, consists of high-quality PE, is stable underground and can be driven over in a car. The DN 600 dome shaft is supplied within the scope of delivery with every tank as standard. This can be infinitely adjusted to any tank excavation depth.

All tanks come with a shaft cover which is strong enough to walk on as standard. Where vehicle-proofing is required, the "Roth shaft cover, car-proof" must be ordered as an accessory.

All Roth retention tanks come with a filter basket integrated into the dome shaft as standard.

■ Flow rate

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 of rainwater into the water line. Other flow rates are possible with the Roth 2" or 3" retention flow regulators. These can be ordered as an individual design according to customer requirements and installed in the tank for a surcharge.

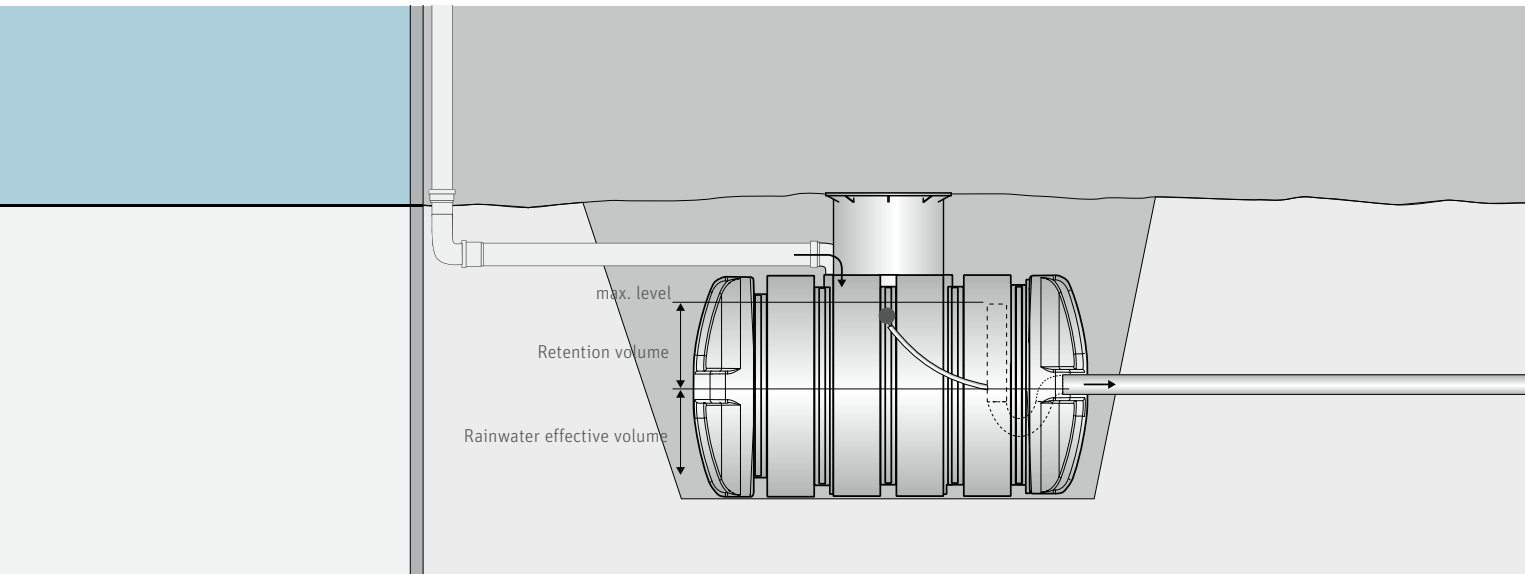
■ Retention volume

The retention volume defines the amount of water that is buffered by the tank and then released into the sewer system in a controlled manner with a delayed flow. The tanks are available with 50% or 100% retention volume as standard.

Other retention volumes than the standard versions offered are possible as individual designs.

| Roth retention tank | | | | | | |
|---|----------------------|----------------------|--------------------------------------|------------------------|-------------|--------------|
| Model | Retention volume [l] | Effective volume [l] | Dimensions of tank [mm] L x W x H | Height with shaft [mm] | Weight [kg] | Material No. |
| Roth retention tank 3500 litres, 50% retention | 1750 | 1750 | 2350 x 2300 x 975 | max. 1650 | 145 | 1135007229 |
| Roth retention tank 5000 litres, 50% retention | 2500 | 2500 | 2460 x 2350 x 1350 | max. 2050 | 195 | 1135007230 |
| Roth retention tank 6000 litres, 50% retention | 3000 | 3000 | 3200 x 1830 x 1945 | max. 2875 | 255 | 1135007231 |
| Roth retention tank 3500 litres, 100% retention | 3500 | 0 | 2350 x 2300 x 975 | max. 1650 | 145 | 1135007975 |
| Roth retention tank 5000 litres, 100% retention | 5000 | 0 | 2460 x 2350 x 1350 | max. 2050 | 195 | 1135007976 |
| Roth retention tank 6000 litres, 100% retention | 6000 | 0 | 3200 x 1830 x 1945 | max. 2875 | 255 | 1135007977 |
| Surcharge for 2" or 3" variant | | | | | | 1135007232 |

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



■ Components



Roth Twinbloc® or round storage tank (6000 litres)

Tank in ultra-flat design with integrated extendible dome shaft system, inflow slowing device and overflow siphon with barrier for small animals.



Roth filter basket

Filter cage integrated in the dome shaft of the tank for purifying the collected rainwater, mesh size 1 mm.



Roth retention flow regulator

The Roth retention flow regulator ensures a regular, predefined outflow.
Hose dimensions: 1", flow-through amount in litres per second 0,07 l/s to 0,50 l/s.

■ Roth retention pack 2"/3" version

The Roth conversion set is suitable for installation in existing underground storage tanks. It can be used in combination with all Roth underground storage tanks. The conversion set can be installed either in the lower part of the tank (100% retention) or at half the tank height (50% retention, 50% effective volume).

- > hose dimensions: 2" flow-through amount in litres per second 0,66 l/s to 1,64 l/s
- > hose dimensions: 3" flow-through amount in litres per second 0,83 l/s to 3,85 l/s

The Roth retention flow regulator ensures a regular, predefined outflow.

Roth round ground rainwater storage tanks

for ground installation with dome shaft and cover

- > environmentally friendly
- > cost-reducing
- > effective
- > easy to install



■ Roth round ground rainwater storage tanks

Roth round ground rainwater storage tanks are available in 3500, 4500 and 6000-litre sizes.

The tank is formed in one piece, consists of high-quality PE, is stable underground and can be driven over in a car. The DN 600 telescopic dome shaft is supplied within the scope of delivery with every tank as standard and can be adjusted to any excavation depth.

Tanks can be coupled by means of a lower DN 100 connection line.

■ Scope of delivery of the tanks

- > PE underground storage tank
- > DN 600 dome shaft system with cover which is strong enough to walk on
- > 2 x DN 100 connection on the dome shaft with DN 100 special seal
- > 1 x DN 100 connection on the front face of the tank as overflow

■ Car-proof

Roth underground storage tanks are car-proof. For this, the “Roth shaft cover, car-proof” must also be ordered from the accessory range.

The installation instructions must be referred to without exception if the surface of the tanks is to be driven over by cars.

■ Accessories for Roth round underground rainwater storage tanks

Various accessories make it possible to assemble a complete system for using rainwater for both home and garden use. Thanks to the existing connection options, Roth filter systems can be used both for ground installation and for installation in the dome shaft system. It is also recommended to install the Roth overflow siphon complete with barrier to keep small animals out.

Due to the extensive range of pump technology, there is a corresponding technology package available for almost every application.

| Roth round ground rainwater storage tanks | | | |
|---|--------------------------------------|-------------|--------------|
| Model | Dimensions of tank [mm] L x W x H | Weight [kg] | Material No. |
| Round underground storage tank of 3500 litre capacity, including DN 600 shaft and cover | 2120 x 1720 x 1835 | 190 | 1135006757 |
| Round underground storage tank of 4500 litre capacity, including DN 600 shaft and cover | 2480 x 1770 x 1885 | 220 | 1135006758 |
| Round underground storage tank of 6000 litre capacity, including DN 600 shaft and cover | 3200 x 1830 x 1945 | 250 | 1135006759 |

Roth round ground rainwater storage tanks

Dimensions



■ Accessories

Corresponding accessories for finalising for domestic use or as a garden package can be found here in the brochure.

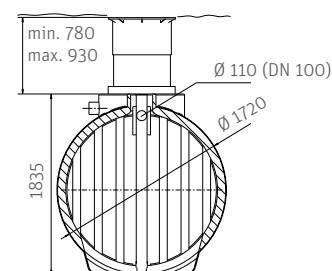
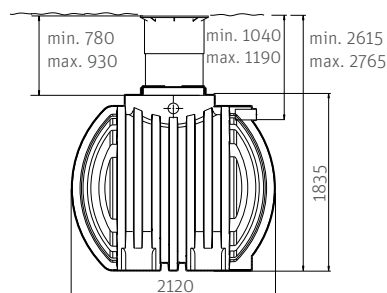
■ Coupling

Tanks can be coupled by means of a lower DN 100 connection line.

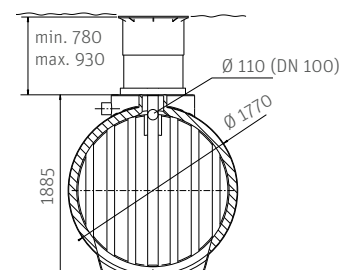
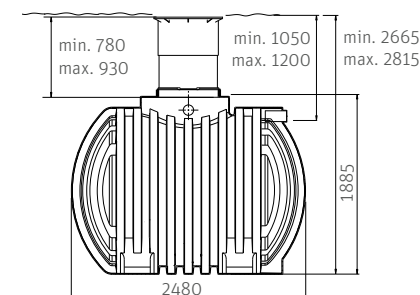
The bore area provided on the tank can be used for a lower connection line to connect additional tanks. The corresponding connection set can be found in the accessories.

The dome shaft system with cover which can be walked on is supplied within the scope of delivery with every tank as standard.

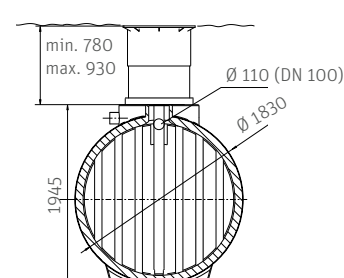
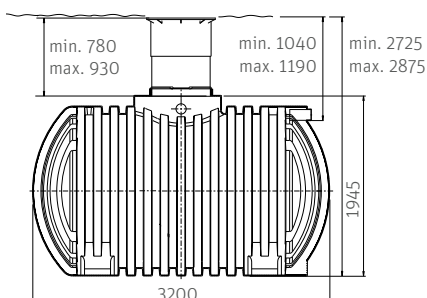
■ 3500 litres



■ 4500 litres



■ 6000 litres



Dimensions in mm

Accessories

for Roth round ground rainwater storage tanks



Roth overflow siphon complete with barrier to keep small animals out

The Roth overflow siphon complete with barrier to keep small animals out is retrofitted to Roth ground rainwater storage tanks – round. The overflow siphon is the ideal solution for removing the floating layers at the top of the tank.

Mat. No. 1135006667



Roth inflow slowing DN 125/DN 100

For retrofitting to Roth ground rainwater storage tanks – round. Comprising DN 100 UD pipe and inflow slowing.

Mat. No. 1135006668



Roth cartridge filter upgrade package

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 including accessories for installation in the dome shaft of the Roth Twinbloc® low-profile storage tank.

Mat. No. 1135006450



Roth garden filter upgrade package

Comprising filter basket and connection accessories for installation in the dome shaft system of Roth ground storage tanks. The mesh size of the filter basket is 1 mm.

Mat. No. 1135006452



Roth ROP Comfort pump module

Complete module with integrated ASPRI 15-4 domestic water supply system and backfeed directly to the pump without going via the tank. With removable cover and electronic level indicator. Max. delivery height of pump 42 m; max. delivered volume 3,5 m³/h; max. suction height 3 m and max. suction line length 15 m.

Mat. No. 1135006049



Roth special seal

For producing additional connections to Roth rainwater storage tanks.

■ Roth DN 50 special seal:

Required drill hole 54 mm for DN 50 HT pipe.

Mat. No. 1135005454

■ Roth DN 100 special seal: Required

drill hole 118 mm for DN 100 HT/UD pipe.

Mat. No. 1135005455



Roth filter for ground installation for roof surfaces up to 350 m²

Filter for ground installation, used to connect multiple DN 100 rainfall pipes, complete with telescopic extension and stainless steel filter cartridge, mesh size: 0,55 mm.

Mat. No. 1135006453



Roth filter for ground installation for roof surfaces up to 200 m²

Filter for ground installation, used to connect multiple DN 100 rainfall pipes, complete with telescopic extension and stainless steel filter cartridge, mesh size: 0,28 mm.

Mat. No. 1135006654



Roth shaft cover, car-proof (600 kg wheel load)

As replacement for the cover included in the scope of delivery. Wheel load bearing capacity of up to 600 kg.

Mat. No. 1135005438



Roth floating withdrawal for Roth round storage tanks

Floating withdrawal, comprising PE ball float, suction filter with integrated brass non-return valve and clamp fitting for 1" PE water pipe. The floating withdrawal is assembled ready for installation. The special hose length is 2,00 m.

Mat. No. 1135006669

Accessories

for Roth round ground rainwater storage tanks

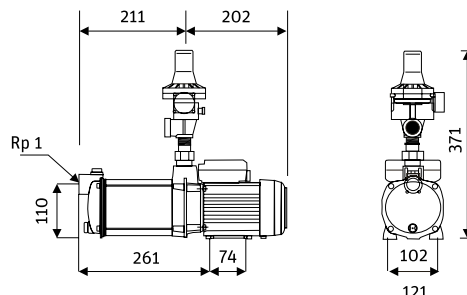


Roth ASPRI 15-4 domestic water supply system

4-stage horizontal centrifugal pump, self-priming with integrated protection against running dry, power consumption 700 W; max. delivery height 42 m; delivered volume 3,5 m³/h; suction height 3 m; suction line length 15 m.

Scope of delivery includes pump connection set and pump console.

Mat. No. 1135002726



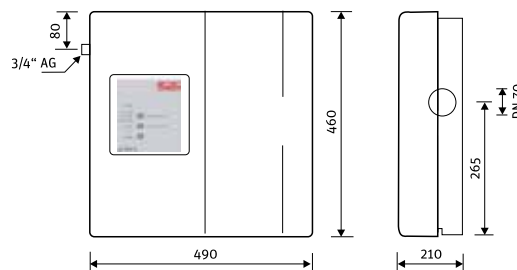
Dimensions in mm



Roth RON Comfort backfeed module

Fully automatic electronic control unit for drinking water backfeed directly to the pump according to requirements and conforming to DIN, integrated level indicator, function monitoring with alarm function, regular water changes, free outflow in accordance with DIN and fully recyclable.

Mat. No. 1135006055



Dimensions in mm



Roth Natura water hydrant

Garden hydrant for extracting water with a 1/2" water tap. The Natura water hydrant, which is made from high-quality plastic, looks like a natural post. Water is supplied via standard hose connection systems. The water hydrant is granite-coloured, weighs 2 kg and is made from PE (UV-resistant).

Mat. No. 1135007462



Roth standard pump module

Complete module with integrated domestic water supply system and backfeed directly to the pump without going via the tank. Max. delivery height of pump 36 m; max. delivered volume 3 m³/h; max. suction height 3 m and max. suction line length 15 m.

Mat. No. 1135006670



Roth Combipress immersion pressure pump

Complete water supply package for equipment that makes use of rainwater: Underwater motorised pump for fully or partially submerged permanent operation, submersion depth maximum 20 m, including KIT O2 circuit breaker and floating withdrawal. Can be used in conjunction with the Roth RON Comfort backfeed module. Maximum delivery rates 6 m³/h; maximum delivery height 55 m; operating pressure 2,4 bar; maximum system discharge pressure 10 bar and maximum system height 20 m.

Mat. No. 1135006054



Roth immersion pump

Multi-stage medium-cooled immersion pump for homes and gardens. The pump has an integrated flow monitor with an electronic function to switch the pump on and off automatically. The integrated flow monitor ensures safe shutdown should the tank run dry, delivered volume maximum 5,7 m³/h, max. system height 20 m, maximum system pressure 3,6 bar and maximum immersion depth 8 m.

Mat. No. 1135006061



Roth connection set

for connecting Roth ground storage tanks with DN 100 UD pipe; set comprises hole saw and 2 DN 100 special seals.

Mat. No. 1135002725



Roth digital fill-level indicator

Electro-pneumatic tank content display device comprising a battery-operated analysis device with digital display and 15 m measuring line. The measurement display shows litres, % and filling level (cm).

Mat. No. 1135008052

Roth collection tanks

for watering the garden



■ Roth collection tanks with filter basket

The 1000 and 1500 litre collection tanks with filter shaft have a dome shaft that is permanently screwed to the storage tank with an integrated filter basket. The DN 100 inflow connection pieces are located on the shaft.

The 2000 and 3000-litre collection tanks with filter basket have a welded-on dome shaft DN 600 and an integrated filter basket. The water can be extracted by means of an immersion pump. The DN 100 inflow connection is located on the shaft.



■ Roth collection tanks without filter basket

Roth collection tanks store rainwater for your garden. They can be installed without a crane. The tanks have a welded-on manhole shaft with a cover which can be walked on (550 mm high). There are two DN 100 pipe ends welded to the front of

the tanks, one for inflow and the other for overflow. As the tanks are designed for standalone installation, they do not have lower flange connections. An immersion pump can be used to extract water via a screw connection on the top of the tank. The dome shaft has a fixed length of 550 mm. It is not possible to extend the shaft. Please refer to the subsequent pages for details of appropriate accessories.



Roth collection tanks

| Model | Dimensions of tank [mm] L x W x H | Height with shaft [mm] | Inspection opening [mm] | Weight [kg] | Material No. |
|---|--------------------------------------|---------------------------|----------------------------|----------------|--------------|
| 1000 litre collection tank with filter basket | 1235 x 720 x 1680 | 1680 | Ø 390 | 45 | 1135006646 |
| 1500 litre collection tank with filter basket | 1880 x 720 x 1905 | 1905 | Ø 390 | 60 | 1135006647 |
| 2000 litre collection tank with filter basket | 2020 x 880 x 2170 | 2170 | Oval 500 x 400 | 105 | 1135006648 |
| 3000 litre collection tank with filter basket | 2630 x 880 x 2170 | 2170 | Oval 500 x 400 | 140 | 1135006649 |
| 1000 litre collection tank without filter basket | 1235 x 720 x 1700 | 1700 | Oval 500 x 400 | 60 | 1135006760 |
| 1500 litre collection tank without filter basket | 1880 x 720 x 1960 | 1960 | Oval 500 x 400 | 75 | 1135006761 |
| 2000 litre collection tank without filter basket | 2020 x 880 x 2170 | 2170 | Oval 500 x 400 | 100 | 1135006762 |
| 3000 litre collection tank without filter basket | 2630 x 880 x 2170 | 2170 | Oval 500 x 400 | 135 | 1135006763 |

Accessories

for Roth collection tanks with/without filter basket



Roth downpipe filter – plastic

Filters and collects rainwater for storage above ground. Adapter and reducer for downpipes \varnothing 80 - 100 mm; DN 50 connection piece for roof surfaces up to 80 m²; mesh size: 0,55 mm

■ grey
Mat. No. 1135006660

■ brown
Mat. No. 1135006661



Roth downpipe filter – metal

Filters and collects rainwater for storage above ground. Adapter and reducer for down-pipes DN 100; mesh size: 0,315 mm

■ Downpipe filter, titanium zinc
Mat. No. 1135006662

■ Downpipe filter, copper
Mat. No. 1135006663



Roth filter for ground installation for roof surfaces up to 200 m²

Filter for ground installation, used to connect multiple DN 100 rainfall pipes, complete with telescopic extension and stainless steel filter cartridge, mesh size: 0,28 mm.

Mat. No. 1135006654



Roth filter for ground installation for roof surfaces up to 350 m²

Filter for ground installation, used to connect multiple DN 100 rainfall pipes, complete with telescopic extension and stainless steel filter cartridge, mesh size: 0,55 mm.

Mat. No. 1135006453



Roth screw connection for DN 50 inlet

Suitable for 750 to 3000 litre domestic/ industrial/garden storage tanks.

Mat. No. 1135005452



Roth filter basket

The Roth filter basket is installed in the tank shaft system. It is the ideal solution for cleaning the rainwater collected. The mesh size of the filter basket is 1 mm.

Mat. No. 1135006664



Roth special seal

for producing additional connections to Roth rainwater storage tanks.

■ Roth DN 50 special seal:
Required drill hole 54 mm for DN 50 HT pipe.
Mat. No. 1135005454

■ Roth DN 100 special seal: Required drill hole 118 mm for DN 100 HT/UD pipe.
Mat. No. 1135005455



Roth immersion pump

Multi-stage medium-cooled immersion pump for homes and gardens. The pump has an integrated flow monitor with an electronic function to switch the pump on and off automatically. The integrated flow monitor ensures safe shutdown should the tank run dry, delivered volume maximum 5,7 m³/h, max. system height 20 m, maximum system pressure 3,6 bar and maximum immersion depth 8 m.

Mat. No. 1135006061



Roth screw connection for immersion pump

for upper screw connections
> coupling with 1" hose connector and compression fitting for 1" PE water pipe
> suitable for Roth domestic/industrial/garden storage tanks

Mat. No. 1135005453



Roth connection set for the garden

Comprising a small ground shaft (\varnothing 150 mm) with cover, 1/2" hose connection, ball valve and 10 m PE water pipe.

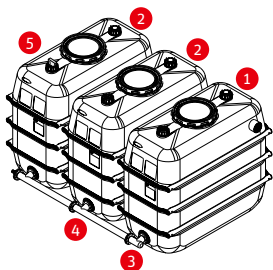
Mat. No. 1135006059

Roth domestic rainwater storage tank for indoor installation above ground



■ Roth domestic storage units

Roth domestic storage units are made from high-quality UV-resistant PE material. They are an opaque green colour, which prevents the growth of algae. Tank sizes 1100 to 2000 litres have galvanised steel bands to ensure maximum stability. The 750 litre tank has an inspection opening \varnothing 150 mm and the 1100 to 2000 litre tanks have an inspection opening \varnothing 400 mm.



■ Roth basic domestic storage tank

All Roth basic domestic storage tanks are equipped with a DN 50 inlet with inflow slowing device on an upper screw connecting piece. The overflow with integrated siphon with barrier to keep small animals out is on the side. The overflow can be variably attached either to the left or right of the tank. To do this, the siphon simply needs to be turned. The upper screw connecting pieces are all provided with a 2" internal thread. All storage tanks are equipped with a lower flange connection.

- 1 basic domestic storage tank
- 2 domestic storage tank extension
- 3 connection accessories for basic domestic storage unit
- 4 connection accessories for domestic storage tank extension
- 5 mechanical fill-level display

■ Roth extension domestic storage tank

Roth domestic storage tank extensions are only equipped with an upper screw connecting piece and lower flange connection. Domestic storage tank extensions are suitable for storing drinking water and can be combined with Roth drinking water storage tanks.

■ Connecting the tanks

The tanks can be connected with Roth connection accessories. The resulting distance between the tanks is 60 mm. Connection is also possible with the Roth universal flange connection brackets or T-connectors.

Roth domestic rainwater storage tank

| Model | Dimensions of tank [mm] L x W x H | Inspection opening [\varnothing mm] | Weight [kg] | Material No. |
|--|--------------------------------------|---|----------------|--------------|
| Basic domestic storage tank, 750 litres | 730 x 730 x 1660 | 150 | 25 | 1115000293 |
| Domestic storage tank extension, 750 litres | 730 x 730 x 1660 | 150 | 25 | 1115000294 |
| Basic domestic storage tank, 1100 litres | 1450 x 720 x 1375 | 400 | 53 | 1115000295 |
| Domestic storage tank extension, 1100 litres | 1450 x 720 x 1375 | 400 | 53 | 1115000296 |
| Basic domestic storage tank, 1500 litres | 1520 x 720 x 1605 | 400 | 80 | 1115000297 |
| Domestic storage tank extension, 1500 litres | 1520 x 720 x 1605 | 400 | 80 | 1115000298 |
| Basic domestic storage tank, 2000 litres | 2050 x 720 x 1640 | 400 | 120 | 1115000299 |
| Domestic storage tank extension, 2000 litres | 2050 x 720 x 1640 | 400 | 120 | 1115000300 |

Accessories

for Roth domestic rainwater storage tank



Roth connection accessories for basic domestic storage tank

Consisting of elbow flange connection, stop valve with flange, hose connector, seal and screws.

Mat. No. 1115001287



Roth connection accessories for extension domestic tanks

Flange T connector, seal and screws including air vent, 2" external thread.

Mat. No. 1115001288



■ Roth 1" elbow universal flange connection with clamp fitting for PE water pipe
Mat. No. 1115001292

■ Roth universal flange connection 2" angle bracket with clamp fitting for PE water pipe
Mat. No. 1115001439



■ Roth 1" T connector universal flange connection with clamp fitting for PE water pipe
Mat. No. 1115001293

■ Roth 2" T connector universal flange connection with clamp fitting for PE water pipe
Mat. No. 1115001440



■ Roth 1" PP flange suitable for all tanks with lower flange connections
Mat. No. 1135000156

■ Roth 2" PP flange suitable for all tanks with lower flange connections
Mat. No. 1135000157



Roth mechanical level indicator

Can be used for 750 l, 1500 l and 2000 l domestic storage tanks, and for 2000 l and 3000 l industrial storage tanks.

Mat. No. 1135000165



Roth downpipe filter – plastic

Filters and collects rainwater for storage above ground. Adapter and reducer for downpipes Ø 80 - 100 mm; DN 50 connection piece for roof surfaces up to 80 m²; mesh size: 0,55 mm

■ grey
Mat. No. 1135006660

■ brown
Mat. No. 1135006661



Roth ASPRI 15-4 domestic water supply system

4-stage horizontal centrifugal pump, self-priming with integrated protection against running dry, power consumption 700 W; max. delivery height 42 l; delivered volume 3,5 m³/h; suction height 3 m; suction line length 15 m; scope of delivery includes pump connection set and pump console.

Mat. No. 1135002726



Roth flange with ball valve

Suitable for 750 l to 3000 l domestic/ industrial storage tanks. The ball valve has a 1" external thread.

Mat. No. 1135005456



Roth drinking water backfeed unit

Drinking water backfeed set conforming to DIN including regulator for backfeed to the storage tank, drinking water connection 3/4", regulator includes 20 m sensor cable.

Mat. No. 1135006665

Roth industrial rainwater storage tank

Tanks for installation above ground



■ Roth industrial storage units

Roth industrial storage units are primarily intended for commercial use. They enable washing systems, nurseries and industrial-scale operations to stockpile or store large quantities of water in an efficient manner. Industrial storage units can also be installed in domestic applications to enable the use of rainwater. Tanks can be fitted with additional pipe connections on request. Specialised accessories make it easier to use the equipment in a professional setting.

■ Roth basic industrial storage tank

Basic industrial storage units have a DN 100 inlet with inflow slowing and a DN 100 overflow siphon with an integrated small-animal barrier. The connections are located on the front of the tanks.

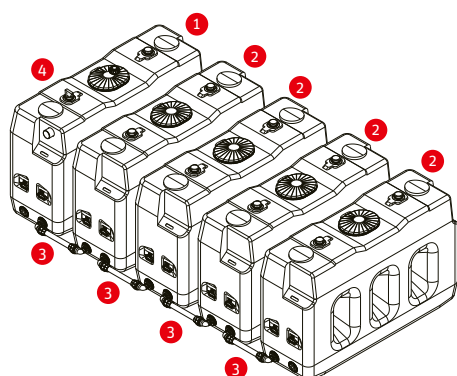
Roth basic industrial storage tanks are also equipped with two lower flange connections. On the container saddle there are 2 screw connecting pieces with 2" internal thread as well as an inspection opening measuring approx. 500 x 400 mm available.

■ Roth extension industrial storage tank

Expansion industrial storage tanks are only equipped with two lower flange connections and one upper screw connecting piece for the 2000 litre tank or two upper screw connecting pieces for 3000 litres.

■ Connecting the tanks

The tanks are connected with the Roth 2" connecting line or with the Roth elbow or T-connector universal flange connection. Connection of a floating removal on the lower flange connections is also possible.



- 1 basic industrial storage tank
- 2 extension industrial storage tank
- 3 connecting line with 2"
- 4 mechanical fill-level display

Roth industrial rainwater storage tank

| Model | Dimensions of tank [mm] L x W x H | Inspection opening [mm] | Weight [kg] | Material No. |
|--|--------------------------------------|----------------------------|----------------|--------------|
| Basic industrial storage tank, 2000 litres | 2020 x 880 x 1650 | Oval 500 x 400 | 92 | 1135001200 |
| Extension industrial storage tank, 2000 litres | 2020 x 880 x 1650 | Oval 500 x 400 | 92 | 1135001201 |
| Basic industrial storage tank, 3000 litres | 2630 x 880 x 1650 | Oval 500 x 400 | 122 | 1135001202 |
| Extension industrial storage tank, 3000 litres | 2630 x 880 x 1650 | Oval 500 x 400 | 122 | 1135001203 |

Accessories

for Roth industrial rainwater storage tank



■ **Roth 1" elbow universal flange connection**
with clamp fitting for PE water pipe
Mat. No. 1115001292

■ **Roth universal flange connection 2" angle bracket**
with clamp fitting for PE water pipe
Mat. No. 1115001439



■ **Roth 1" T connector universal flange connection**
with clamp fitting for PE water pipe
Mat. No. 1115001293

■ **Roth 2" T connector universal flange connection**
with clamp fitting for PE water pipe
Mat. No. 1115001440



Roth connection line, 2"
for connecting basic and extension/ industrial storage tanks to lower flange connections, 2 x 2" flanges, 2 x 63 mm x 2" clamp fittings, 63 mm PE water pipe, 1000 mm long (can be shortened)

Mat. No. 1115003471



■ **Roth 1" PP flange**
suitable for all tanks with lower flange connections
Mat. No. 1135000156

■ **Roth 2" PP flange**
suitable for all tanks with lower flange connections
Mat. No. 1135000157



Roth downpipe filter – plastic
Filters and collects rainwater for storage above ground. Adapter and reducer for downpipes \varnothing 80 - 100 mm; DN 50 connection piece for roof surfaces up to 80 m²; mesh size: 0,55 mm

■ **grey**
Mat. No. 1135006660

■ **brown**
Mat. No. 1135006661



Roth floating withdrawal for Roth Twinbloc® low-profile storage tank
Floating withdrawal, comprising PE ball float, suction filter with integrated brass non-return valve and clamp fitting for 1" PE water pipe. The floating withdrawal is assembled ready for installation. The special hose is 0,50 m long and suitable for connection to the lower flange connection.

Mat. No. 1135005437



Roth mechanical level indicator
Can be used for 750 l, 1500 l and 2000 l domestic storage tanks, and for 2000 l and 3000 l industrial storage tanks.

Mat. No. 1135000165



Roth Flange with ball valve
Suitable for 750 l to 3000 l domestic/ industrial storage tanks. The ball valve has a 1" external thread.

Mat. No. 1135005456



Roth ASPRI 15-4 domestic water supply system
4-stage horizontal centrifugal pump, self-priming with integrated protection against running dry, power consumption 700 W; max. delivery height 42 m; delivered volume 3,5 m³/h; suction height 3 m, suction line length 15 m, scope of delivery includes pump connection set and pump console.

Mat. No. 1135002726



Roth drinking water backfeed unit
Drinking water backfeed set conforming to DIN including regulator for backfeed to the storage tank, drinking water connection 3/4", regulator includes 20 m sensor cable.

Mat. No. 1135006665

Roth rainwater tanks

for garden installation above ground



■ Roth garden storage tanks

Roth garden storage tanks store rainwater for the garden. They protect the water well against soiling once it has been collected. The tanks are an opaque green colour, which prevents growth of algae. The material is high-quality polyethylene, which is durable, rot-proof and UV-resistant. Special accessories can be used to round

off the tanks according to individual requirements and wishes. They can be installed outdoors and indoors.

■ Roth large storage tank

Roth large storage tanks are primarily intended for commercial use. They enable washing systems, nurseries and industrial-scale operations to stockpile or store large

quantities of water in an efficient manner. Large storage units can also be installed in domestic applications to enable the use of rainwater. Tanks can be fitted with pipe connections on request. Specialised accessories make it easier to use the equipment in a professional setting.



- 1 tank
- 2 filter
- 3 flange with ball valve



- 1 tank
- 2 pump
- 3 1" flange

| Roth rainwater tanks | | | | |
|----------------------------------|--------------------------------------|----------------------------|----------------|--------------|
| Model | Dimensions of tank [mm] L x W x H | Inspection opening [mm] | Weight [kg] | Material No. |
| Garden storage tank, 750 litres | 730 x 730 x 1660 | Ø 150 | 25 | 1135006641 |
| Garden storage tank, 1000 litres | 1240 x 720 x 1250 | oval 500 x 400 | 36 | 1135006642 |
| Garden storage tank, 1500 litres | 1880 x 720 x 1480 | oval 500 x 400 | 59 | 1135006643 |
| Large storage tank, 2000 litres | 2020 x 880 x 1650 | oval 500 x 400 | 92 | 1135006644 |
| Large storage tank, 3000 litres | 2630 x 880 x 1650 | oval 500 x 400 | 122 | 1135006645 |

Accessories for Roth rainwater tanks



Roth downpipe filter – plastic

Filters and collects rainwater for storage above ground. Adapter and reducer for downpipes Ø 80 - 100 mm; DN 50 connection piece for roof surfaces up to 80 m²; mesh size: 0,55 mm

■ grey
Mat. No. 1135006660

■ brown
Mat. No. 1135006661



Roth downpipe filter – metal

Filters and collects rainwater for storage above ground. Adapter and reducer for down-pipes DN 100; mesh size: 0,315 mm

■ Downpipe filter, titanium zinc
Mat. No. 1135006662

■ Downpipe filter, copper
Mat. No. 1135006663



■ Roth 1" PP flange
suitable for all tanks with lower flange connections
Mat. No. 1135000156

■ Roth 2" PP flange
suitable for all tanks with lower flange connections
Mat. No. 1135000157



Roth Flange with ball valve

Suitable for 750 l to 3000 l domestic/ industrial storage tanks. The ball valve has a 1" external thread.

Mat. No. 1135005456



Roth screw connection for immersion pump

For upper screw-connecting pieces
> Coupling with 1" hose connector and compression fitting for 1" PE water pipe
> Suitable for Roth domestic/industrial/ garden storage tanks

Mat. No. 1135005453



Roth screw connection for DN 50 inlet

Suitable for 750 to 3000 litre Roth domestic/industrial/garden storage tanks.

Mat. No. 1135005452



Roth immersion pump

Multi-stage medium-cooled immersion pump for homes and gardens. The pump has an integrated flow monitor with an electronic function to switch the pump on and off automatically. The integrated flow monitor ensures safe shutdown should the tank run dry, delivered volume maximum 5,7 m³/h, max. system height 20 m, maximum system pressure 3,6 bar and maximum immersion depth 8 m.

Mat. No. 1135006061



Roth connection set

For connecting Roth ground storage tanks with DN 100 UD pipe; set comprises hole saw and 2 DN 100 special seals.

Mat. No. 1135002725



Roth special seal

For producing additional connections to Roth rainwater storage tanks.

■ Roth DN 50 special seal:
Required drill hole 54 mm for DN 50 HT pipe.
Mat. No. 1135005454

■ Roth DN 100 special seal:
Required drill hole 118 mm for DN 100 HT/UD pipe.
Mat. No. 1135005455



Roth labelling pack

For labelling the rainwater system at home.

Mat. No. 1115001286

Roth drinking water storage tank

for indoor installation above ground



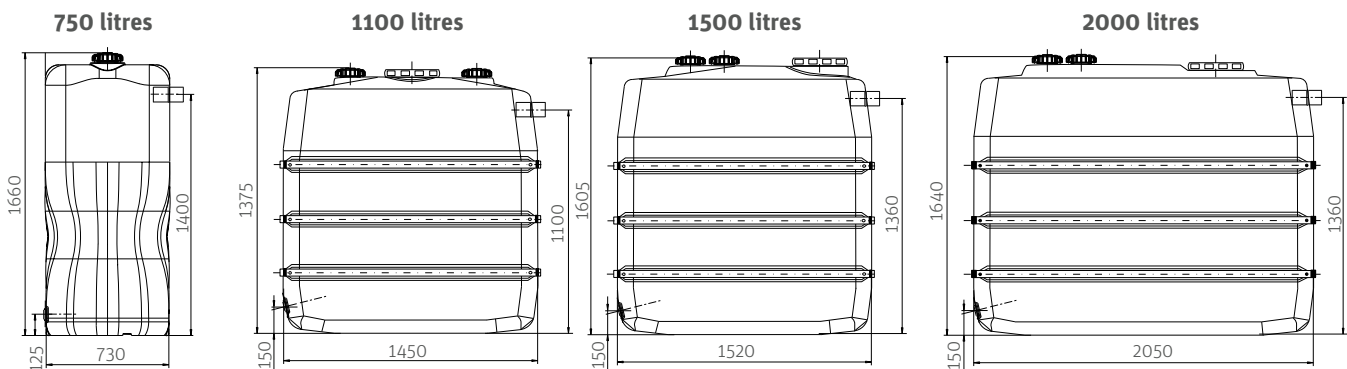
■ Roth drinking water storage tank

Roth drinking water tanks are designed to store drinking water in buildings. They are suitable for installation above ground. They are made from a special non-hybrid tested polyethylene. The material used meets the KTW guidelines issued by the Federal Environment Agency for tanks. From a microbiological point of view, it

complies with the requirements of the DVGW Worksheet W270 (11/2007) and the KTW guidelines. All tanks are an opaque green colour, preventing the growth of algae. The 750-litre version is particularly suitable for use in cramped cellars and narrow doors due to its compact design. The 1100 to 2000-litre tanks are provided with special pipe bandages to guarantee maximum stability. All tank sizes 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 tank. The drinking water storage tanks have a flange connection sealed with a blind flange at the bottom of the tank, providing several connection options for different uses. Coupling with Roth expansion domestic storage tanks is possible.

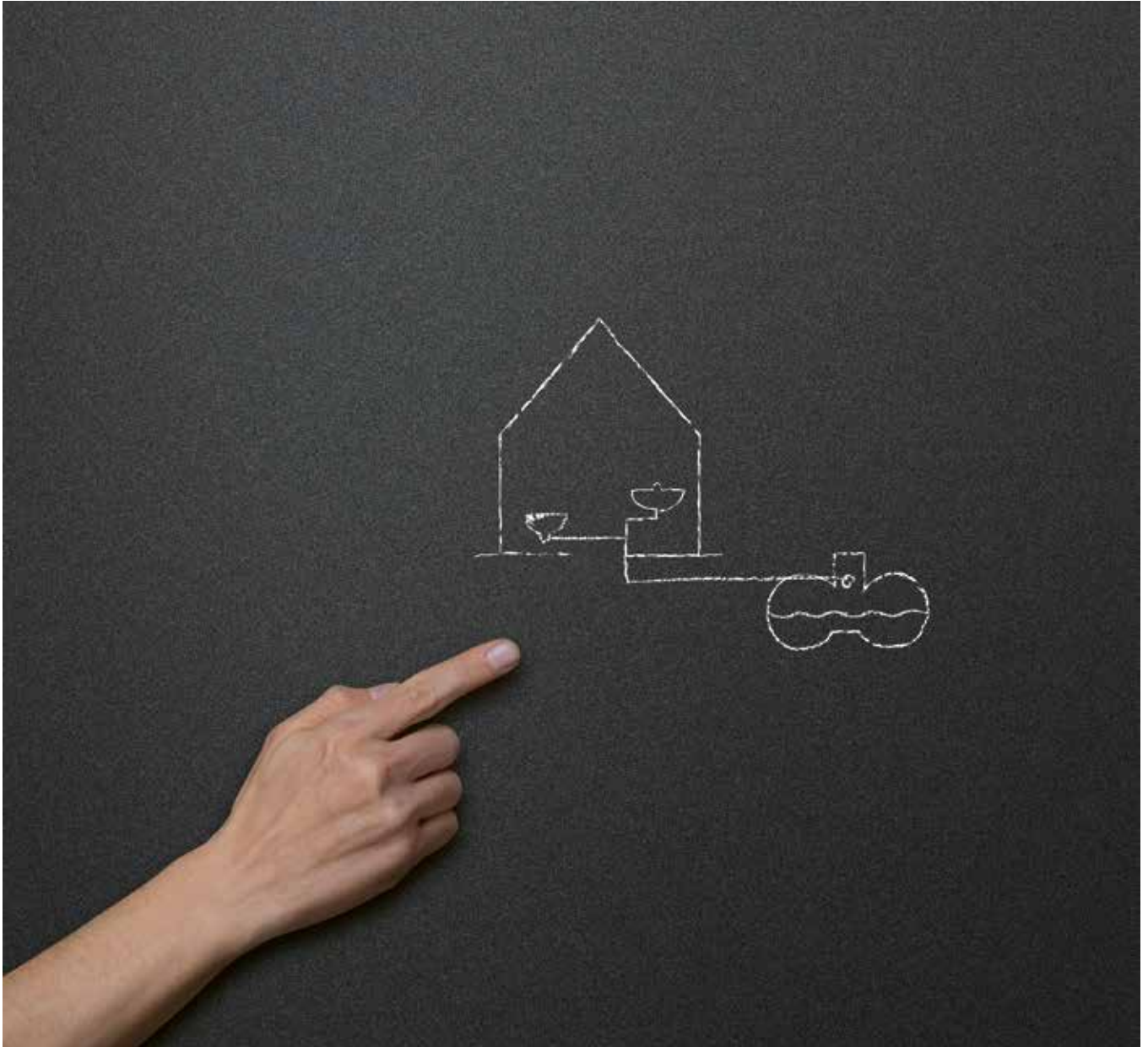
■ Dimensions of the Roth drinking water storage tank



Dimensions in mm

| Roth drinking water storage tank | | | | |
|--|-----------------------------------|---------------------------|-------------|--------------|
| Model | Dimensions of tank [mm] L x W x H | Inspection opening [Ø mm] | Weight [kg] | Material No. |
| Drinking water storage tank, 750 litres | 730 x 730 x 1660 | 150 | 25 | 1135006650 |
| Drinking water storage tank, 1100 litres | 1450 x 720 x 1375 | 400 | 53 | 1135006651 |
| Drinking water storage tank, 1500 litres | 1520 x 720 x 1605 | 400 | 80 | 1135006652 |
| Drinking water storage tank, 2000 litres | 2050 x 720 x 1640 | 400 | 120 | 1135006653 |

Small sewage plants and collecting pits



Roth MicroStar TB small sewage plant

with fully biological action in the Twinbloc® low-profile storage unit
DIBt (Deutsches Institut für Bautechnik) approval number Z-55.31.656



■ Roth MicroStar TB small sewage plants

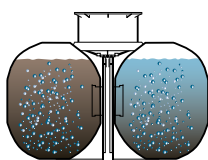
Roth's MicroStar TB small sewage plant is a single-stage activated sludge system newly developed in accordance with the SSB process (sequential stabilising activated sludge system – an aerobic sequential wastewater treatment plant with integrated sludge stabilisation).

In principle, both the cyclical wastewater treatment by activated sludge in the retention principle, as well as the sludge separation, sludge stabilisation and sludge storage take place in a joint plant stage.

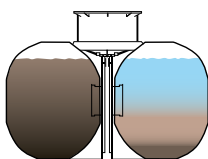
The individual processes are not carried in separate space, but at separate times (intermittent operation). The joint stage is divided into two chambers. The first chamber takes on the role of coarse sand catcher in addition to ventilation. In the last chamber, the secondary clarification takes place in addition to the intermittent oxygen injection.

■ How the system works

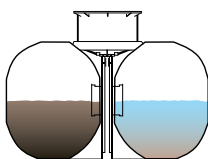
1. Ventilation phase: Wastewater treatment



2. Settling phase: Secondary treatment



3. Drainage phase: Pumping out the treated wastewater



■ Advantages of the system

- > exceptional purification performance
- > minimal sludge volumes generated
- > no odour problems
- > significantly reduced operating costs
- > generous dimensioning of the plant stages means there are long intervals between waste disposals
- > completely pre-assembled, ready for installation
- > tank geometry designed for high levels of ground stability and minimal installation height
- > state-of-the-art controls for safe operation
- > compact thanks to rotary valve technology, no noise from solenoid valves

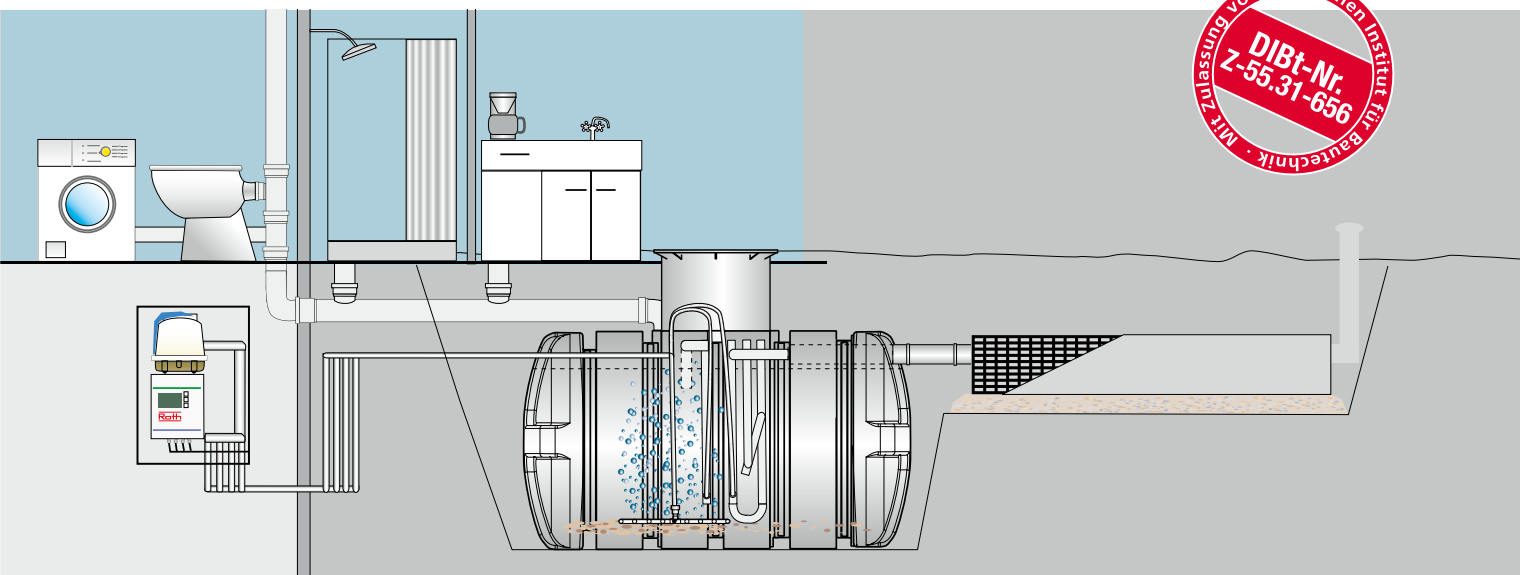
■ Purification performance

The Roth MicroStar TB small sewage plant complies with all of the legal standards which apply to small sewage plants.

The system meets the requirements of:

Approval class C: Z-55.31-656

Approval class D: Z-55.31-655



Rainwater recycling

■ Scope of delivery of the complete system

- > Twinbloc® tank with integral division wall, including DN 600 dome shaft and cover which is strong enough to walk on (200 kg)
- > completely pre-assembled sewage system
- > compact control cabinet houses a control unit and diaphragm compressor which are fully pre-assembled and ready to plug in. Suitable for indoor and outdoor installation
- > 10 m air hoses for connecting the aerator and the airlift pumps in the tank

■ Infiltration

The wastewater treated in Roth small sewage plants can be distributed in the soil by means of Roth infiltration modules. Ready-to-install modules that are prefabricated accordingly and adapted to the respective system size can be found in the chapter on the Roth infiltration system.

■ Maintenance of small sewage plants

In accordance with the statutory provisions and the conditions of the National Technical Approval, the system must be serviced twice a year. The servicing must be carried out by an authorised company and, depending on the country's regulations, samples of the wastewater should be taken at the outlet.



Small sewage plants and collecting pits

Roth MicroStar TB small sewage plants

| Model | Dimensions of tank [mm] L x W x H | max. height with shaft [mm] | Total weight [kg] | Material No. |
|---|--------------------------------------|--------------------------------|----------------------|--------------|
| Complete MicroStar TB system for 1 – 4 inhabitants | 2460 x 2350 x 1350 | 2045 | 220 | 1135007725 |
| Complete MicroStar TB system for 5 – 6 inhabitants | 2460 x 2350 x 1350 | 2045 | 220 | 1135007726 |
| Complete MicroStar TB system for 7 – 12 inhabitants | 2x 2460 x 2350 x 1350 | 2045 | 440 | 1135007727 |
| MicroStar TB 10 m hose extension kit | | | | 1135007743 |
| Shaft extension | Max. height 500 | | | 1135005436 |
| Exterior column for MicroStar TB controller | | | | 1135007742 |
| Shaft cover, vehicle-proof | | | | 1135005438 |

For information on commissioning, see chapter on Contacts

Roth Micro-Step XL SBR-Hybrid small sewage plant

with fully biological action/DIBt approval Z-55.31-407



Advantages of the system

- > the Micro-Step XL SBR-Hybrid incorporates tried-and-tested technology that has proved its worth for many years in SBR technology and activated sludge systems in batch operation.
- > single tank system with just one shaft cover
- > completely pre-assembled, ready to plug in
- > ready for use immediately
- > easy installation using a mini-excavator, with low insertion depth possible
- > extremely effective full-surface aeration process with minimum construction height
- > no moving or current-carrying components in the wastewater
- > low-maintenance system
- > control cabinet for internal and external installation included in the scope of delivery

How the system works

1. Primary settling: All domestic wastewater is conveyed into the primary settling tank of the plant. In the primary settling area, settleable substances are separated from the remaining wastewater. At the same time, this serves as a buffer for occasional larger amounts of wastewater, such as from bath-

tubs, temporarily higher numbers of people or the like. A cyclically controlled airlift pump transports the wastewater from the primary settling tank into the biological part of the plant.

2. Biological treatment: The wastewater is oxygenated several times a day in cycles by the aerator on the bottom of the tank, thereby stimulating the formation of microorganisms. An additional biomass generator ensures a high population of microorganisms and thus the high purification performance of the plant. Unneeded activated matter is actively transported from the biological stage back into the primary settling tank. The ventilation and operation of the airlift pumps are performed by an energy-optimised diaphragm compressor and are controlled by an intelligent controller. The system has been tested and adapted for low-power operation. At night, there is usually no ventilation and thus no power consumption.

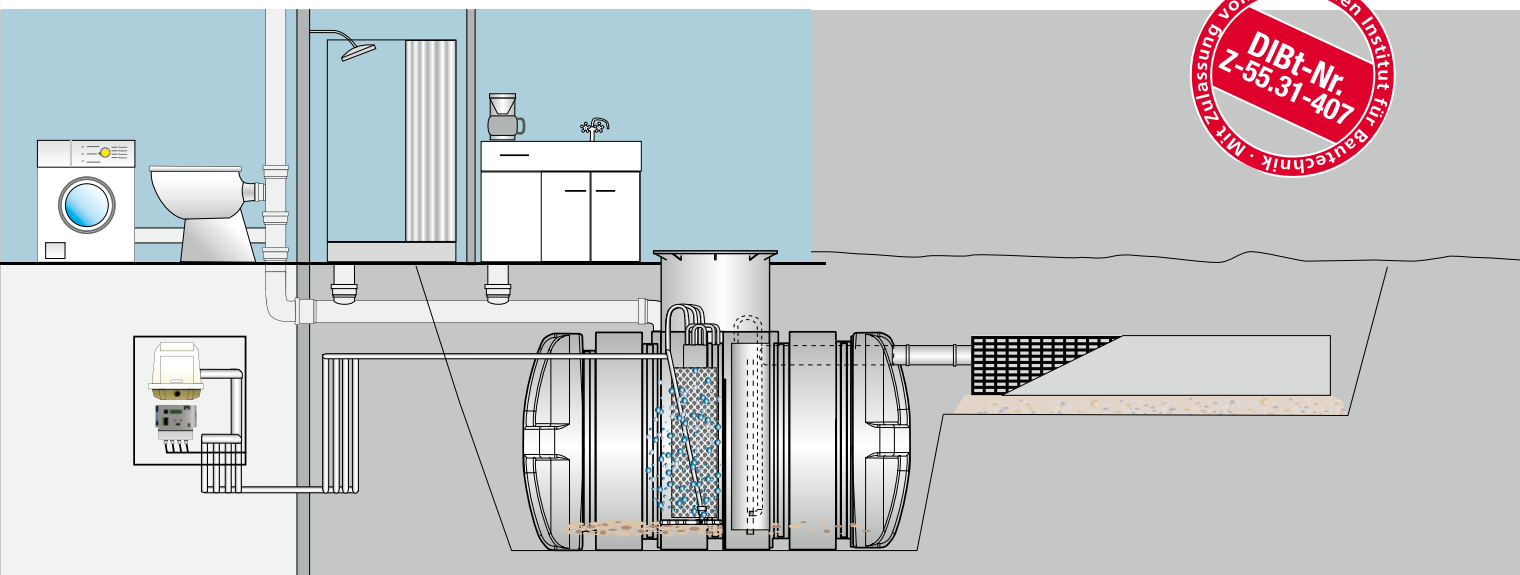
3. Secondary settling: The final treatment is detached from the biological aspect by a division wall, which is constructed in two stages. Sedimentation of the existing biomass occurs in the first stage. Since this chamber is not ventilated, these substances can easily settle on the base. The second

stage of secondary settling consists of the separator pipe, which delivers the purified wastewater to the receiving water or the infiltration system from the cleaned water area. Excess biomass (activated sludge) is supplied from the secondary settling tank to the primary settling tank several times a week.

Purification performance

The Roth Micro-Step XL SBR-Hybrid complies with all of the legal standards which apply to small sewage plants.

The system meets the requirements of
Approval class C: Z-55.31-407
Approval class N: Z-55.31-406



Rainwater recycling

■ Scope of delivery of the complete system

- > Twinbloc® tank with integral division walls, including DN 600 dome shaft and cover which is strong enough to walk on.
- > completely pre-assembled sewage system
- > compact control cabinet houses a control unit and diaphragm compressor which are fully pre-assembled and ready to plug in. Suitable for indoor and outdoor installation
- > 12 m air hoses for connecting the aerator and the airlift pumps in the tank

■ Infiltration

The wastewater treated in Roth small sewage plants can be distributed in the soil by means of Roth infiltration modules. Ready-to-install modules that are prefabricated accordingly and adapted to the respective system size can be found in the chapter on the Roth infiltration system.

■ Maintenance of small sewage plants

In accordance with the statutory provisions and the conditions of the National Technical Approval, the system must be serviced twice a year. The servicing must be carried out by an authorised company and, depending on the country's regulations, samples of the wastewater should be taken at the outlet.



Small sewage plants and collecting pits

Roth Micro-Step XL SBR-Hybrid small sewage plants

| Model | Dimensions of tank [mm] L x W x H | max. height with shaft [mm] | Total weight [kg] | Material No. |
|--|--------------------------------------|--------------------------------|----------------------|--------------|
| Complete system for up to 4 inhabitants | 2460 x 2350 x 1350 | 2050 | 220 | 1135006969 |
| Complete system for up to 6 inhabitants | 2460 x 2350 x 1350 | 2050 | 220 | 1135006970 |
| Complete system for up to 8 inhabitants | 2x 2460 x 2350 x 1350 | 2050 | 440 | 1135007001 |
| Complete system for up to 12 inhabitants | 2x 2460 x 2350 x 1350 | 2050 | 440 | 1135007002 |
| 12 m hose extension kit | | | | 1135006774 |
| Shaft extension | Max. height 500 | | | 1135005436 |
| Shaft cover, vehicle-proof | | | | 1135005438 |

For information on commissioning, see chapter on Contacts

Roth Micro-Bubbler small sewage plant with fully biological action/DIBt approval Z-55.31-293



■ Advantages compared to other systems

The Roth Micro-Bubbler sewage system combined with the innovative Twinbloc® tank system offers a whole host of benefits in comparison to conventional systems:

- > tank height just 1,35 m (in plant for up to 4 inhabitants/6 inhabitants)
- > easy installation possible using a mini-excavator
- > exceptionally easy handling thanks to the moulded carrying handles on the tank
- > functional reliability thanks to the tried-and-tested SBR technology with ecocontrol energy-saving system – less wastewater = lower energy consumption
- > completely prefabricated
- > integral sampling shaft in the tank
- > no moving or current-carrying components in the tank

■ How the system works

1. Pretreatment: The domestic wastewater accrued is conveyed into the small sewage plant, which is designed as a dual-chamber tank. The first chamber serves as a primary settling tank and buffer, whilst the second chamber serves as an SBR tank for biological treatment. The pre-purified wastewater is dispensed intermittently into the SBR tank.

2. SBR tank: The actual biological wastewater treatment process takes place in treatment cycles, alternating between ventilated and unventilated periods.

Phase A waiting phase/automatic economy mode: The SBR tank is filled to the minimum water level height. The activated sludge in it is ventilated intermittently during the waiting phase to keep the microorganisms alive and thus always ready for use. This means alternating between ventilated and unventilated periods. If there is no inflow, the system remains in the economy mode.

Phase B Filling and treatment phase: The wastewater accrued in the primary settling tank is dispensed into the SBR tank. The oxygen needed to treat the wastewater is provided by an air compressor. To save energy, the air is introduced in intervals.

Phase C Sedimentation and drain phase: During the sedimentation phase (settling phase), the activated sludge may settle on the base of the tank, i.e. the ventilation and the pumps are not active. Any excess sludge accrued is fed back into the settling tank. The treated water is released into the receiving water (ditch) or into the infiltration system.

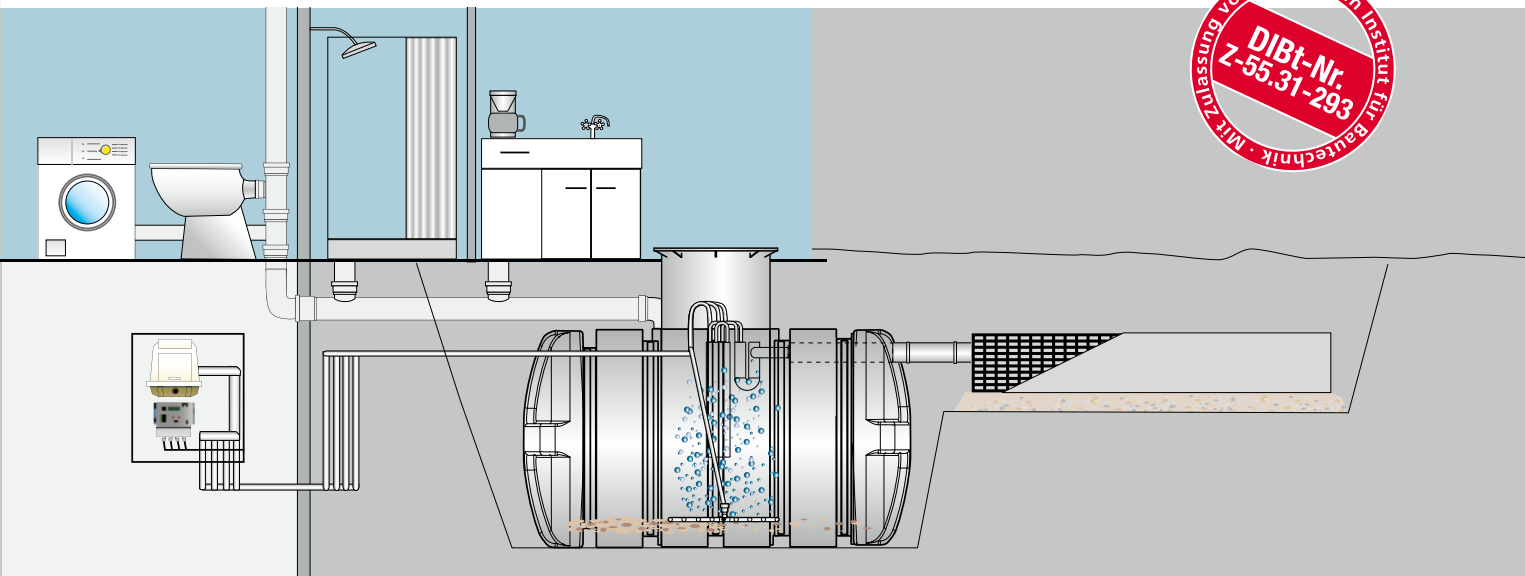
3. Control unit and compressor: The entire system is operated via a diaphragm compressor, which is responsible for all ventilation and pumping functions. There are no additional electrical parts in the tank.

This guarantees a high degree of functional reliability and fail safety.

By optimising the purification performance and top discharge values of our small SBR sewage plants, we have already met future requirements. The consumption-based control of the Micro-Bubbler small SBR sewage plants goes one step further. The small sewage treatment plant detects how much water is in the SBR tank and then adjusts the ventilation completely automatically. This means: **Less wastewater = less ventilation = lower energy consumption = lower costs.**

■ Purification performance

The system meets the requirements of **Approval class C: Z-55.31-293**
Approval class D: Z-55.31-292



Rainwater recycling

■ Scope of delivery of the complete system

- > Twinbloc® dual-chamber tank, including DN 600 dome shaft and cover which is strong enough to walk on.
- > completely pre-assembled SBR sewage system
- > compact control cabinet houses a control unit and diaphragm compressor which are fully pre-assembled and ready to plug in. Suitable for indoor and outdoor installation
- > 12 m high-pressure spiral hoses
- > 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 and outdoor installation
- > controller with ecocontrol energy-saving system
- > pre-assembled and ready to plug in
- > mains-free power failure detection
- > lowest energy consumption
- > with 3-pole 230 V CE plug

■ Infiltration

The wastewater treated in Roth small sewage plants can be distributed in the soil by means of Roth infiltration modules. Ready-to-install modules that are prefabricated accordingly and adapted to the respective system size can be found in the chapter on the Roth infiltration system.



Roth Micro-Bubbler small sewage plant

| Model | Dimensions of tank [mm] L x W x H | max. height with shaft [mm] | Total weight [kg] | Material No. |
|--|--|--------------------------------|----------------------|--------------|
| Complete Micro-Bubbler system for up to 4 inhabitants | 2460 x 2350 x 1350 | 2050 | 220 | 1135006771 |
| Complete Micro-Bubbler system for up to 6 inhabitants | 2460 x 2350 x 1350 | 2050 | 220 | 1135006772 |
| Complete Micro-Bubbler system for up to 8 inhabitants | 3200 x 1830 x 1945 | 2870 | 320 | 1135006773 |
| Complete Micro-Bubbler system for up to 12 inhabitants | 2x 2460 x 2350 x 1350 | 2050 | 440 | 1135006822 |
| Complete Micro-Bubbler system for up to 16 inhabitants | 1x 2460 x 2350 x 1350 1x 3200 x 1830 x 1945 | 2050 2870 | 540 | 1135006823 |
| 12 m hose extension kit | | | | 1135006774 |
| Shaft extension | Max. height 500 | | | 1135005436 |
| Shaft cover, vehicle-proof | | | | 1135005438 |

For information on commissioning, see chapter on Contacts

Small sewage plants and collecting pits

Roth Micro-Step XL small sewage plants

with fully biological action/DIBt approval Z-55.31-506



■ Advantages compared to other systems

The Roth Micro-Step XL small sewage plant is manufactured from HDPE tanks that have been tried and tested over many years. Unlike concrete pits, these tanks are rot-proof and permanently resistant to wastewater. All the built-in components are made of high-quality plastic or stainless steel.

- › easy installation with shallow insertion depth (even without a crane)
- › compact tank design
- › simple and safe operation, with no parts subject to wear inside the small sewage plant
- › quiet operation
- › long service life
- › existing small sewage plants can be easily converted

■ Function

1. Pretreatment: All of the domestic wastewater is introduced into the primary settling tank, which is designed as a dual-chamber system, and is mechanically pretreated here. That means that solid matter settles on the floor, whilst floating matter is retained.

The primary settling tank serves simultaneously as a sludge storage tank.

2. Biological treatment: The wastewater pretreated in this way is fed into the biological part of the plant in the second tank and is oxygenated through intermittent aeration. This leads to the formation of micro-organisms that cause the pollutants in the wastewater to be broken down. The wastewater is aerated with a specific large-scale tube aerator adapted to the shape of the tank. Above the aerator is a biomass generator that allows for the formation of a so-called bio-grass and thus ensures a constant purification performance.

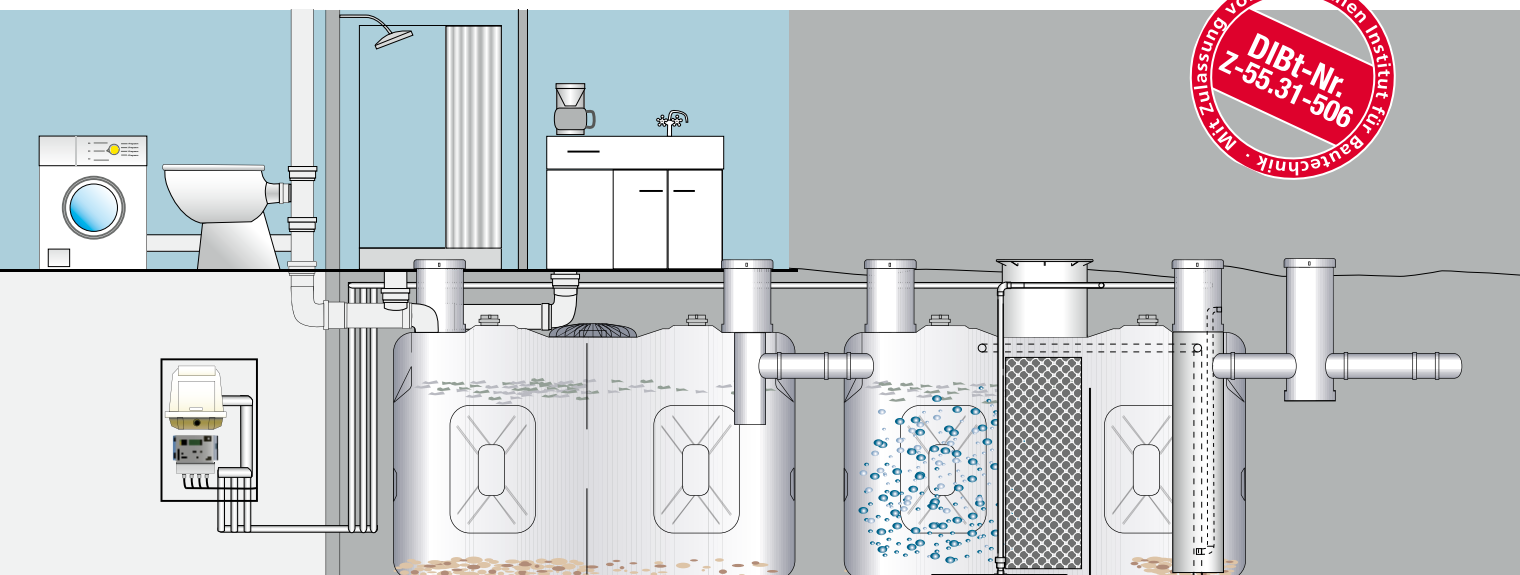
3. Final step: The biologically treated wastewater passes through an overflow pipe into the secondary settling area. A special sludge retention system and a sludge management system which works in cooperation with the plant control system alternately supplies the accrued activated sludge to the biological part of the plant and stores it in the primary settling tank until the sludge is discharged. The cleaned water can be introduced into receiving water in accordance with the permit issued under water legislation or infiltrated into the ground locally by means of compact modules (see Roth infiltration system).

■ Purification performance

The Roth Micro-Step XL small sewage plant complies with all of the legal standards which apply to small sewage plants. The plant meets the requirements of **effluent class C**.

■ Approval – What should be noted?

To get approval to build a small sewage plant or to replace an existing plant, you will need the permission of the building authority and the local water authority. This allows you to introduce the purified wastewater into a body of flowing water or infiltrate it into the soil. The Roth Micro-Step XL small sewage plant has the National Technical Approval Z-55.31-506, which is the basis for the approval.



Rainwater recycling

■ Scope of delivery of the complete system

- > primary settling tank including dome shafts and installation accessories
- > combined biological and secondary treatment tank including dome shafts
- > biomass generator and aerator
- > compact control cabinet houses a control unit and diaphragm compressor which are fully pre-assembled and ready to plug in
- > 8 metres of air hose and tubing for installation in the standard model
- > sampling shaft

■ Conversion

Existing, serviceable small sewage plants (e.g. 3-chamber sewage systems) can be converted into fully biological small sewage plants by installing the Micro-Step XL tank. This conversion entails conveying the discharge from the existing small sewage plant into the combined biological and secondary treatment tank. A pipeline for recirculating the sludge into the first settling chamber also needs to be installed.

■ Maintenance of small sewage plants

In accordance with the statutory provisions and the conditions of the National Technical Approval, the system must

be serviced twice a year. The servicing must be carried out by an authorised company and, depending on the country's regulations, samples of the wastewater should be taken at the outlet from the sampling shaft included in the scope of delivery.



Small sewage plants and collecting pits

Roth Micro-Step XL small sewage plants

| Model | Dimensions of tank [mm] L x W x H | max. height with shaft [mm] | Total weight [kg] | Material No. |
|--|--|--------------------------------|----------------------|--------------|
| Complete system for up to 4 inhabitants | 2x 2020 x 880 x 1650 | 2200 | 220 | 1135006809 |
| Complete system for up to 6 inhabitants | 1x 2020 x 880 x 1650 1x 2630 x 880 x 1650 | 2200 | 250 | 1135006810 |
| Complete system for up to 8 inhabitants | 2x 2630 x 880 x 1650 | 2200 | 300 | 1135006811 |
| Conversion tank including control system for up to 4 inhabitants | 2020 x 880 x 1650 | 2200 | 126 | 1135006775 |
| Conversion tank including control system for up to 6 inhabitants | 2630 x 880 x 1650 | 2200 | 156 | 1135006776 |
| Conversion tank including control system for up to 8 inhabitants | 2630 x 880 x 1650 | 2200 | 165 | 1135006777 |
| Extension kit for inlet depths of 0,60 - 0,95 m (lower edge of inlet) | | | | 1135006808 |
| Sampling shaft | | | | 1135006778 |

For information on commissioning, see chapter on Contacts

Roth Infiltration System

for fully biological small sewage plants

- > quick and easy installation with no technical aids required
- > long service life
- > absolutely no maintenance
- > overlying surfaces fully usable
- > produced from high-quality material



■ What are infiltration units for small sewage plants for?

Infiltration units for small sewage plants are primarily used in places where it is not possible to discharge treated waste water into a body of flowing water.

The water treated in fully biological small sewage plants is distributed throughout the soil on a large scale by means of infiltration units and can thus infiltrate evenly. The units' shallow installation depth means they can also be used in areas with a high water table. A minimum clearance of 1 m from the maximum groundwater level must be maintained.

Approval for infiltration must be obtained from the responsible local water authorities.

■ Installation layout

Infiltration systems can be installed in almost any location. The only prerequisite is that there is a large enough area to insert the modules into the ground. The overlying areas are fully usable and can even be driven over. If the area is to be driven over afterwards, a minimum of 80 cm of earth coverage is required. Otherwise, 40 cm of earth coverage is sufficient. You will get a prefabricated, fully equipped infiltration system adapted to the size of the existing small sewage plant. This

is made up of individual connected block modules fitted with two DN 100 connecting sleeves. Any number of blocks can be connected in series. A DN 100 aerator and vent is needed for each system. The blocks are already assembled and covered with geotextile, so they only have to be inserted into the ground.

Roth Infiltration System

| Roth MicroStar/Micro-Step XL SBR-Hybrid/Micro-Bubbler/Micro-Step XL | Dimensions of tank [mm] L x W x H |
|---|-----------------------------------|
| System for up to 4 inhabitants 1x Roth infiltration block* | 2400 x 1600 x 400 |
| System for up to 6 inhabitants 2x Roth infiltration block* | each element 2400 x 1600 x 400 |
| System for up to 8 inhabitants 3x Roth infiltration block* | each element 2400 x 1600 x 400 |
| System for up to 10 inhabitants 3x Roth infiltration block* | each element 2400 x 1600 x 400 |
| System for up to 12 inhabitants 4x Roth infiltration block* | each element 2400 x 1600 x 400 |
| System for up to 14 inhabitants 6x Roth infiltration block* | each element 2400 x 1600 x 400 |
| System for up to 16 inhabitants 6x Roth infiltration block* | each element 2400 x 1600 x 400 |

* another dimensioning adapted to the soil conditions is also possible

| Model | Dimensions of tank [mm] L x W x H | Material No. |
|--|--------------------------------------|--------------|
| Roth infiltration block 6,5 m ² wall area | 2400 x 1600 x 400 | 1135006813 |
| DN 100 aerator and vent for infiltration block | | 1135006659 |

For information on commissioning, see chapter on Contacts



■ Function

The purified water discharged from the sewage plant is channelled into the infiltration modules. The infiltration modules are sheathed with geotextile on their upper side and lateral surfaces to ensure that the water can flow off only slowly, thereby ensuring an extensive and even infiltration.

■ Installation

As the components are very light, no technical aids are necessary for installation. The infiltration blocks only require a horizontal contact surface with the ground and sufficient time for infiltration. For this reason they must rest on a 5 cm thick gravel layer.

■ Components

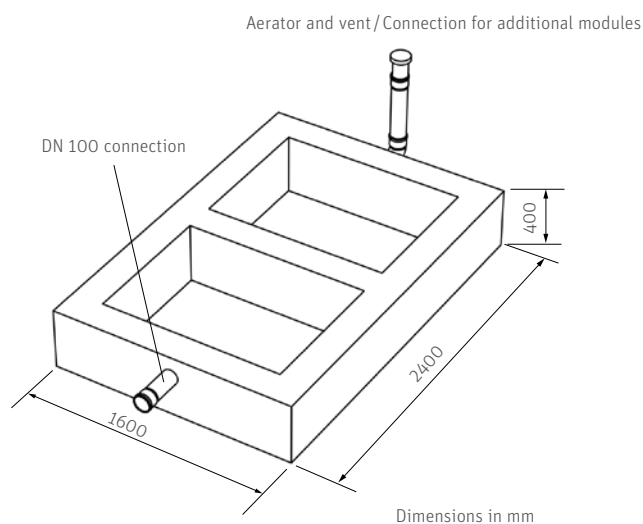


Roth aerator and vent for infiltration block

Aeration and ventilation element for installation in DN 100 UD pipe. Height approx. 500 mm.

Mat. No. 1135006659
Price: EUR 27,00

■ Dimensions of Roth infiltration block



Roth collecting pits with DIBt approval



■ Roth collecting pits

Sealed collecting pits with DIBt approval are required where it is not possible to discharge treated wastewater for water protection reasons, for example, or where there are only small volumes of wastewater (allotments or weekend homes). Roth collecting pits have a DN 100 inflow connection are supplied with a dome shaft

system and cover that is strong enough to walk on as standard. All of the wastewater accrued is stored in collecting pits until it is disposed of. The pit is emptied via the inspection shafts using vacuum trucks. Alternatively, the Roth suction device can be installed. The shaft is supplied with a diameter of 200 mm and a total length of 700 mm and a cover which can be walked

on. The shaft can be shortened. It can also be extended with a DN 200 UD pipe. It is also possible to install a suction device (see accessories). The 1500 to 3500 litre collecting pits are available with a DN 600 shaft as an option. For this, the “Roth shaft cover, car-proof” is available as an accessory.

■ Components



Roth level indicator for wastewater tanks

A visual and acoustic alarm is given when the maximum fill level has been reached. A 15 m sensor cable is included.

Mat. No. 1135006784



Roth suction device for collecting pits

Steel pipe with DN 100 quick-release coupling for suction from closed wastewater tanks. The device is connected to the wastewater tank by a wastewater pipe, UD 2000 DN 100.

Mat. No. 1135006785



Roth special seal

For producing additional connections to Roth sewage containers and collecting pits.

Roth DN 50/100 special seal

Required drill hole 54/118 mm.

Mat. No. (DN 50) 1135005454
Mat. No. (DN 100) 1135005455



Roth shaft cover, car-proof (600 kg wheel load)

As replacement for the cover included in the scope of delivery. Wheel load bearing capacity of up to 600 kg.

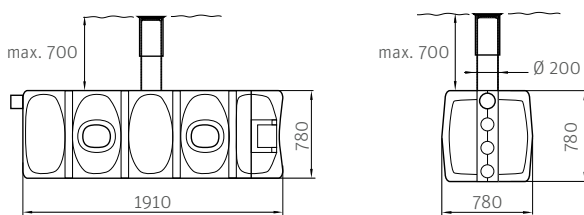
Mat. No. 1135005438

Roth collecting pits at a glance

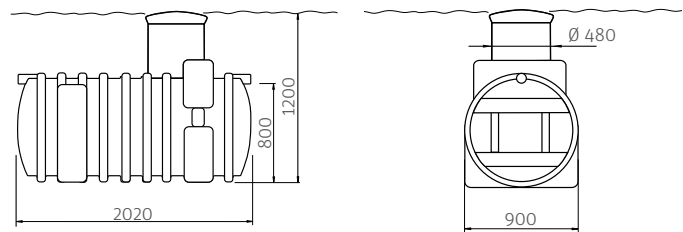
| Roth collecting pits | | |
|---|-------------|--------------|
| Model with DN 200 shaft | Weight [kg] | Material No. |
| Monobloc collecting pit of 900 litre capacity, including DN 200 shaft and cover | 66 | 1135007511 |
| Round collecting pit of 1000 litre capacity, including shaft and cover | 90 | 1135006779 |
| Twinbloc® collecting pit of 1500 litre capacity, including DN 200 shaft and cover | 85 | 1135006780 |
| Round collecting pit of 2000 litre capacity, including DN 200 shaft and cover | 148 | 1135006781 |
| Round collecting pit of 3000 litre capacity, including DN 200 shaft and cover | 194 | 1135006782 |
| Twinbloc® collecting pit of 3500 litre capacity, including DN 200 shaft and cover | 180 | 1135006783 |
| Model with DN 600 shaft | Weight [kg] | Material No. |
| Twinbloc® collecting pit of 1500 litre capacity, including DN 600 shaft and cover | 85 | 1135006985 |
| Round collecting pit of 2000 litre capacity, including DN 600 shaft and cover | 148 | 1135006983 |
| Round collecting pit of 3000 litre capacity, including DN 600 shaft and cover | 194 | 1135006979 |
| Twinbloc® collecting pit of 3500 litre capacity, including DN 600 shaft and cover | 180 | 1135006982 |
| Shaft cover, vehicle-proof, for DN 600 shaft | | 1135005438 |

For information on commissioning, see chapter on Contacts

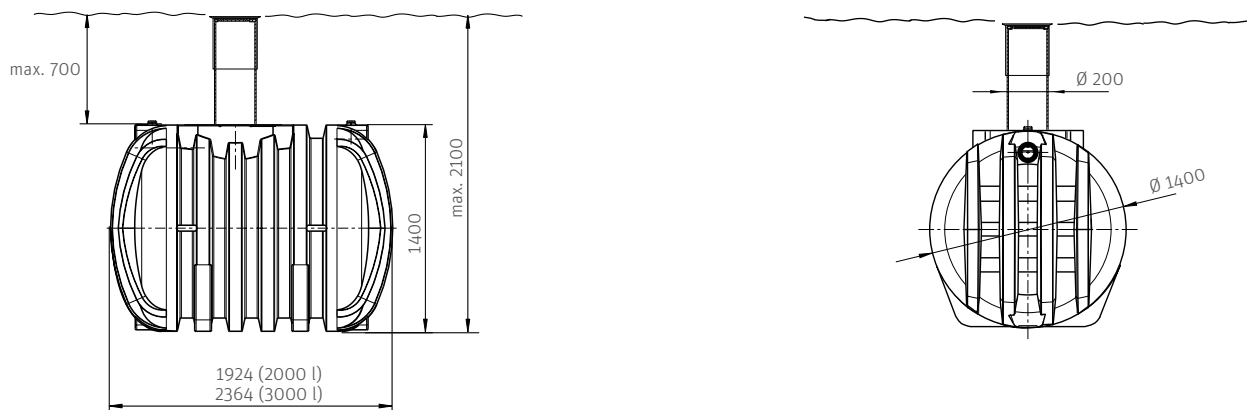
■ Roth Monobloc 900 litre collecting pit



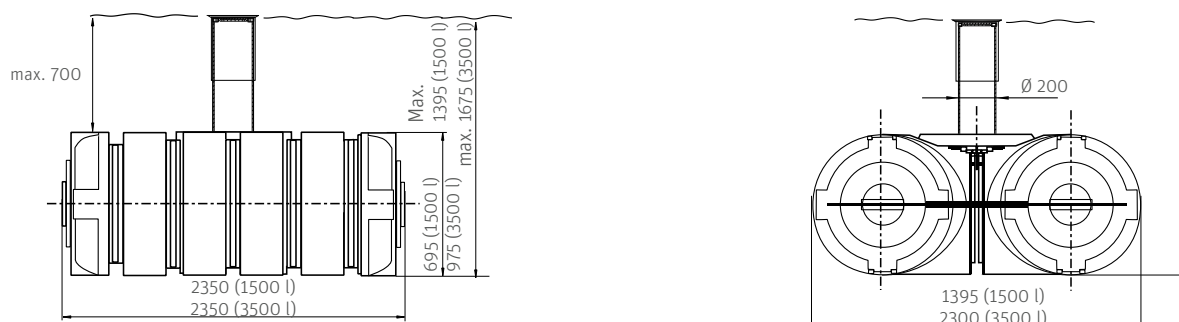
■ Roth round collecting pit of 1000 litre capacity



■ Roth round collecting pit of 2000/3000 litre capacity



■ Roth Twinbloc® collecting pit of 1500/3500 litre capacity



Dimensions in mm

Roth waste water tanks

with manufacturer's certification



■ Roth wastewater tanks

Sealed wastewater tanks are required where it is not possible to discharge treated wastewater for water protection reasons, for example, or where there are only small volumes of wastewater (allotments or

weekend homes). All of the wastewater accrued is stored in wastewater tanks until it is disposed of. The pit is emptied via the inspection shafts using vacuum trucks. The shaft is supplied with a diameter of 200 mm and a total length of 700 mm and a cover which can be walked on (other shaft

diameters available on request). The shaft can be shortened. It can also be extended with a DN 200 UD pipe. It is also possible to install a suction device (see accessories).

■ Components



Roth level indicator for wastewater tanks

A visual and acoustic alarm is given when the maximum fill level has been reached. A 15 m sensor cable is included.

Mat. No. 1135006784



Roth special seal

For producing additional connections to Roth sewage containers and collecting pits.

Roth DN 50/100 special seal

Required drill hole 54/118 mm.

Mat. No. (DN 50) 1135005454

Mat. No. (DN 100) 1135005455



Roth suction device for collecting pits

Steel pipe with DN 100 quick-release coupling for suction from closed wastewater tanks. The device is connected to the wastewater tank by a wastewater pipe, UD 2000 DN 100.

Mat. No. 1135006785



Roth shaft cover, car-proof (600 kg wheel load)

As replacement for the cover included in the scope of delivery. Wheel load bearing capacity of up to 600 kg.

Mat. No. 1135005438

Roth waste water tanks

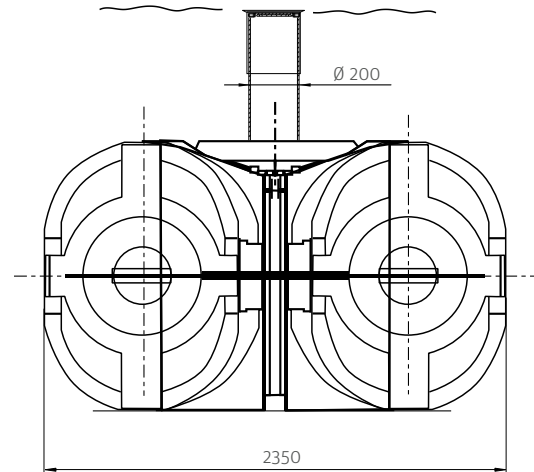
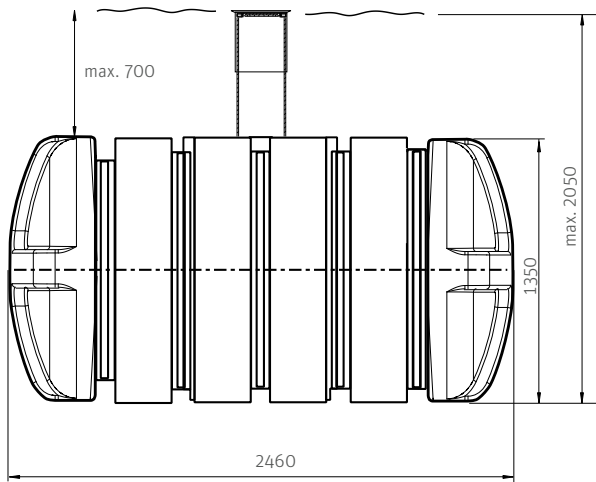
| Model | Dimensions of tank [mm] L x W x H | Weight [kg] | Material No. |
|---|--------------------------------------|-------------|--------------|
| Twinbloc® wastewater tank of 5000 litre capacity, including shaft and cover | 2460 x 2350 x 1350 | 190 | 1135006792 |
| Round wastewater tank of 3500 litre capacity, including shaft and cover | 2120 x 1720 x 1835 | 190 | 1135006802 |
| Round wastewater tank of 4500 litre capacity, including shaft and cover | 2480 x 1770 x 1885 | 220 | 1135006803 |
| Round wastewater tank of 6000 litre capacity, including shaft and cover | 3200 x 1830 x 1945 | 250 | 1135006804 |
| Surcharge for DN 600 shaft for wastewater tank | | | |

For information on commissioning, see chapter on Contacts

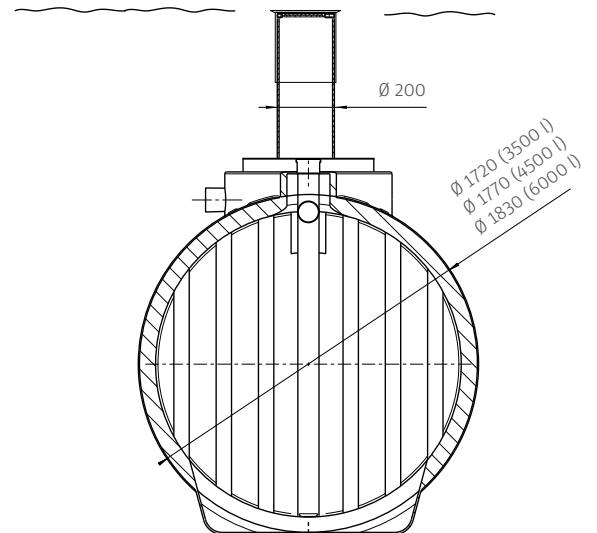
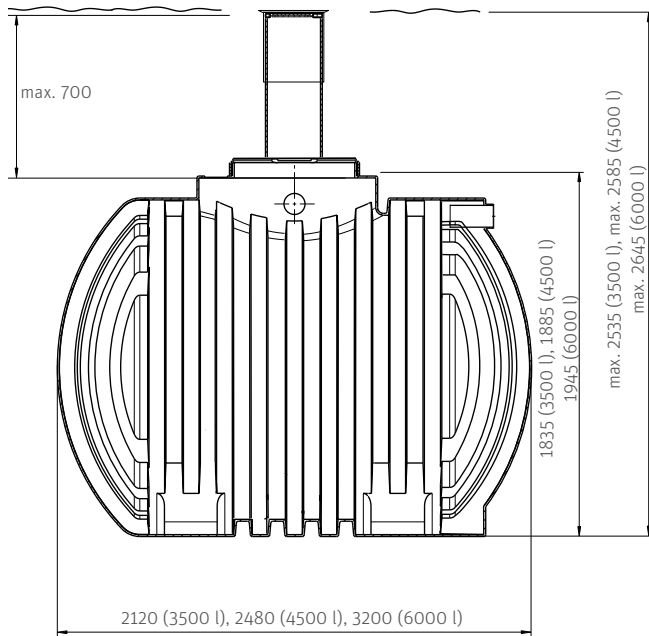
Roth waste water tanks

Dimensions at a glance

■ Roth Twinbloc® 5000-litre wastewater tank



■ Roth round wastewater tank, 3500/4500/6000 litres



Dimensions in mm

Roth small sewage plants with partial biological effect



How does the system work?

Domestic waste water flows through a multi-chamber system, gradually depositing contaminants. Settleable substances and floating material are removed from the water in settling pits (mechanical action). Microorganisms in the sewage sludge also help to partially break down the organic contaminants in septic tanks (partially biological action). Further treatment is also possible in an underground irrigation system or constructed wetland.

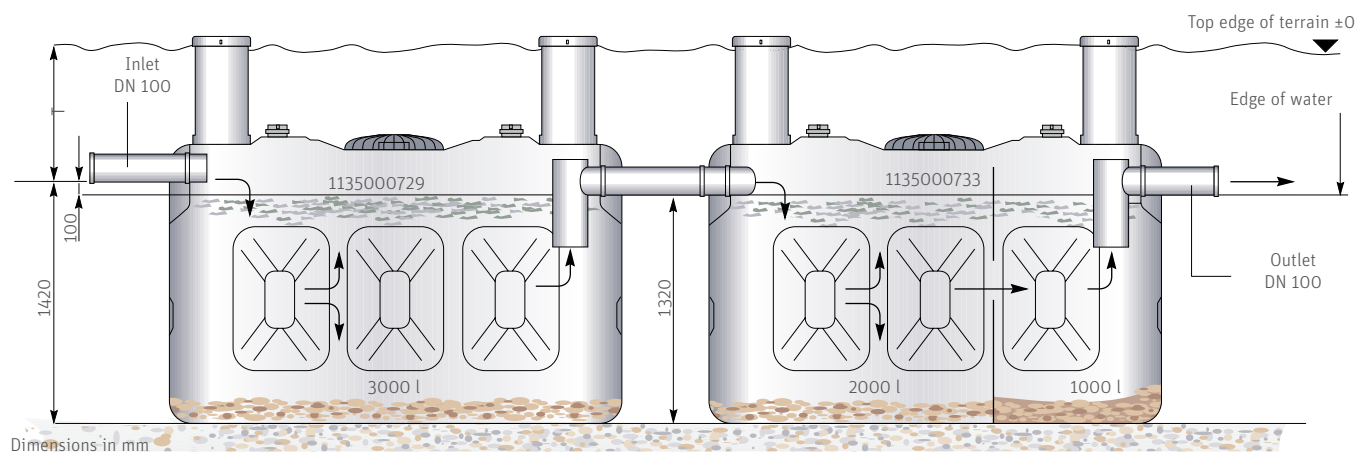
Roth settling tanks have DN 100 welded pipe connections for the inlet and outlet. The first tank in a system has a built-in

gradient of 100 mm to prevent backing up of floating sludge. The outlet T-piece prevents floating matter from flowing off.

2000 and 3000 litre tanks with a division wall are also available in a two-chamber version. The dimension "D" refers to the depth of the inlet. Experience has shown that there is no risk of frost with wastewaters containing faecal matter. Roth small sewage plants have been developed to meet German standards.

Dimensioning the system

The dimensioning of small sewage plants for residential buildings should be based on the number of inhabitants, assuming as a minimum 4 inhabitants for each dwelling unit over 50 m² of living area. Settling pits must have 300 litres capacity per inhabitant, as well as an overall minimum capacity of 3000 litres, and must comprise 2 chambers or 3 chambers for capacities of 4000 litres or more. Septic tanks must have 1500 litres capacity per inhabitant, as well as an overall minimum capacity of 6000 litres, and must comprise 3 chambers.



| Dimensioning | | | | | |
|---|-------------------|-------------|--------------|------------------|--|
| Small sewage tank | Model | Inhabitants | Capacity [l] | Tank arrangement | Material No. |
| Settling pits (mechanical effect) | Dual-chamber pit | 6 | 2000 | | 1135000725 |
| | Dual-chamber pit | 10 | 3000 | | 1135000731 |
| | Dual-chamber pit | 10 | 3000 | | 1115001658 1115001661 |
| | Three-chamber pit | 12 | 4000 | | 1135000723 1135000726 |
| | Three-chamber pit | 15 | 4500 | | 1135000731 1115001659 |
| Septic tanks (partial biological effect) | Three-chamber pit | 4 | 6000 | | 1135000729 1135000733 |
| | Three-chamber pit | 4 | 6000 | | 1135000729 1115001659 1115001659 |
| | Three-chamber pit | 6 | 9000 | | 1135000729 1135000734 1135000734 |

■ Operating and maintaining the system

Small sewage plants are filled with water when in operation. Only domestic wastewater from the kitchen, bathroom, toilet and washing machine can be fed in, and therefore no rainwater or other wastewater from industry and agriculture.

Small sewage plants must be serviced regularly. A certified specialist company must be appointed to carry out sludge disposal. Settling pits must be emptied at least once a year. Septic tanks must be de-sludged at least every two years. The operating and maintenance instructions for Roth small sewage plants and collecting pits must be observed.

■ Components



**Roth shaft, 630 mm long
Ø 315 mm**

for tanks of 1500 to 3000 litres capacity
(2 units per tank required)

**Mat. No. 1135006786
Price: EUR 45,00**



**Roth insulation and filler panel
installation accessories**

for Roth settling tanks and collecting pits
(1 pack per tank required)

**Mat. No. 1135006787
Price: EUR 66,00**

| Roth small sewage plants | | | | | |
|--------------------------|---------------|----------------|-----------------------------------|-------------|--------------|
| Model | Inlet D1 [mm] | Outlet D2 [mm] | Dimensions of tank [mm] L x W x H | Weight [kg] | Material No. |
| 1500 litres | 260 | 360 | 1880 x 720 x 1480 | 59 | 1115001658 |
| | 260 | 260 | 1880 x 720 x 1480 | 59 | 1115001659 |
| | 360 | 360 | 1880 x 720 x 1480 | 59 | 1115001661 |
| 2000 litres | 230 | 330 | 2020 x 880 x 1650 | 92 | 1135000723 |
| | 330 | 330 | 2020 x 880 x 1650 | 92 | 1135000727 |
| 2000 litre dual chamber | 230 | 330 | 2020 x 880 x 1650 | 94 | 1135000725 |
| | 330 | 330 | 2020 x 880 x 1650 | 94 | 1135000726 |
| 3000 litres | 230 | 330 | 2630 x 880 x 1650 | 122 | 1135000729 |
| | 330 | 330 | 2630 x 880 x 1650 | 122 | 1135000734 |
| 3000 litre dual chamber | 230 | 330 | 2630 x 880 x 1650 | 124 | 1135000731 |
| | 330 | 330 | 2630 x 880 x 1650 | 124 | 1135000733 |

For information on commissioning, see chapter on Contacts

Contacts

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■ Commissioning Roth small sewage plants by request

Scope of services:

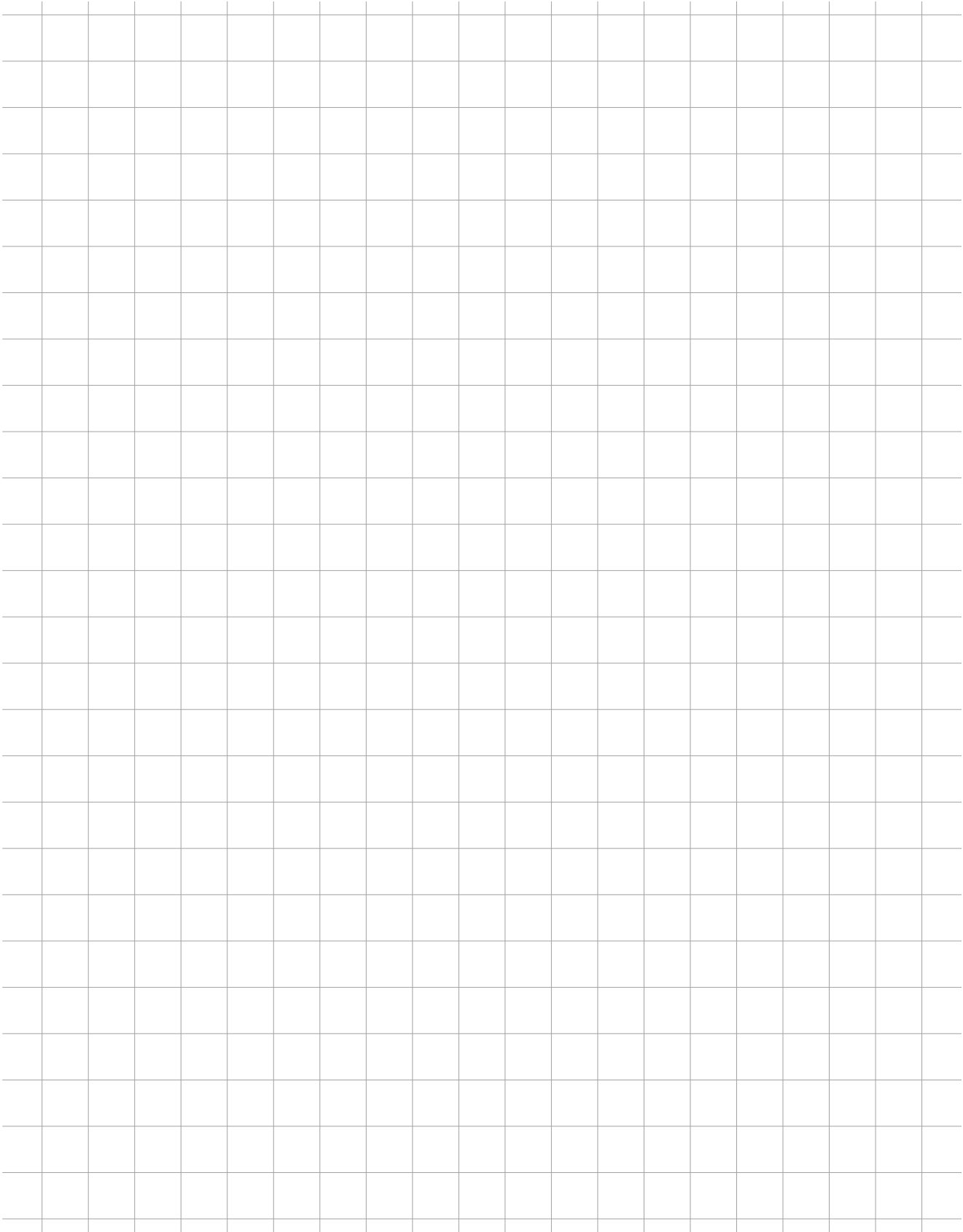
Commissioning

- > checking the installation of the tank, control cabinet and air hoses
- > setting the system controller
- > functional check of the system
- > instructing the operator
- > issuing the commissioning log

Assembling of technology set and commissioning

- > installation and assembly of the technology set in the tank
- > connection of air hoses to the pre-installed control cabinet and in the tank
- > checking the installation of the tank, control cabinet and air hoses
- > setting the system controller
- > functional check of the system
- > instructing the operator
- > issuing the commissioning log

Notes

A large grid of 18 columns and 25 rows for taking notes. The grid is composed of thin grey lines forming a series of small squares.

Roth and the ‘Handwerkermarke’

A strong partnership



**We are setting
a standard
for quality.**

A strong partnership with a clear aim: top quality, maximum security and safety and optimum service – from the product to the installation. A partnership which benefits everyone. The “Handwerkermarke” quality label advertises all-round expertise. Only specialists with the highest quality standards use this brand.

■ Benefits

- > reliable products and security in the event of product damage
- > dependable logistics through the three-tier sales channel
- > long-term availability with 10-year after-sales guarantee
- > help provided quickly thanks to our 48-hour service
- > knowledge shared through training sessions and support
- > joint action to provide comprehensive support in your day-to-day business

■ Concept

The ‘Handwerkermarke’ is a unique symbol of quality for the sanitary, heating and air-conditioning industry.

- > successfully established on the market since 2000
- > service network comprising many prestigious brand manufacturers and 5,000 specialist tradespeople
- > sets a standard for the three-tier sales channel and top-quality execution

The ‘Handwerkermarke’ concept is primarily about bringing together numerous helpful benefits for sanitary, heating and air-conditioning tradespeople who are members of a trade association. The manufacturers, specialist wholesalers and trade association members commit to providing high-quality work and all partners benefit from reliable products, punctual delivery and skilled execution – with top-quality results for the end customer.

Our strengths

Your benefits

Innovation

- > Early identification of market requirements
- > In-house materials research and development
- > In-house engineering
- > The company is certified in accordance with DIN EN ISO 9001

Service

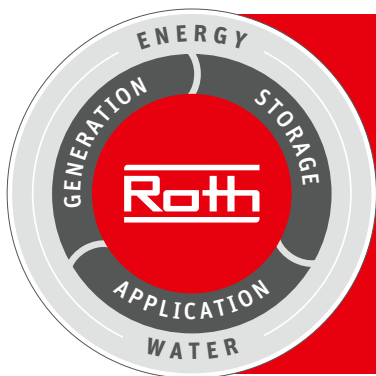
- > Extensive field network of qualified sales professionals
- > Hotline and project planning service
- > Factory training courses, planning and product seminars
- > Fast availability of all Roth brand product ranges throughout Europe
- > Comprehensive guarantee and extended liability agreements

Products

- > Complete range of easy-to-install product systems
- > Manufacturing expertise for the complete product range within the Roth Industries group of companies



Roth



Generation

- > Solar systems
- > Heat pump systems
- > Solar heat pump systems

Storage

- Storage systems for
- > Domestic and heating water
 - > Combustibles and biofuels
 - > Rainwater and waste water

Application

- > Floor heating and cooling systems
- > Pipe installation systems
- > Shower systems



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