

Installation and maintenance instructions for GRAF PLATIN drinking water underground tank

1500 L	Order No. 390600
3000 L	Order No. 390601
5000 L	Order No. 390602



The points described in these instructions must be observed under all circumstances. All warranty rights are invalidated in the event of non-observance. Separate installation instructions are enclosed in the transportation packaging for all additional articles purchased from GRAF.

Missing instructions must be requested from us immediately.

The tank must be checked for any damage prior to insertion into the trench under all circumstances.

Missing instructions can be downloaded on www.graf.info or can be requested from GRAF.

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1. General notes

1.1 Security

The relevant accident prevention regulations according to BGV C22 must be observed during all work. Particularly when walking on the tanks, a 2nd person is required to secure the tank.

The relevant regulations and standards must additionally be taken into consideration during installation, assembly, servicing, repair, etc. Relevant notes can be found in the corresponding sections of these instructions.

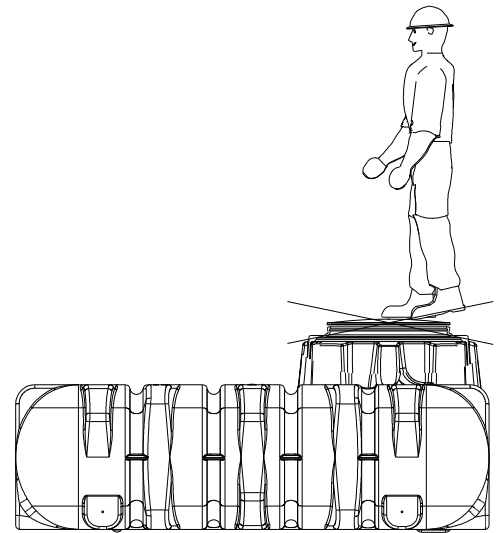
During all work on the system or parts of the system, the entire system must always be rendered inoperable and secured to prevent unauthorised reactivation.

The tank must be thoroughly cleaned prior to commissioning, because transport and storage may result in dirt or rainwater entering the container.

Except in the event of work carried out in the tank, the cover of the tank must always be kept sealed, as this otherwise constitutes a maximum risk of accident. The rain protection installed on delivery is merely transportation packaging. It cannot be walked on and is not child-proof; it must be replaced with a suitable cover immediately following delivery (drinking water telescopic dome shaft with corresponding cover)!

Only original GRAF covers or covers approved in writing by GRAF must be used.

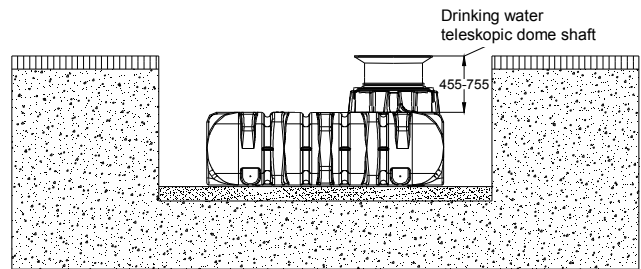
GRAF offers an extensive range of accessories, all of which are designed to match each other and which can be extended to form complete systems. The use of accessories that have not been approved by GRAF results in the exclusion of the warranty/guarantee.



2. Installation conditions

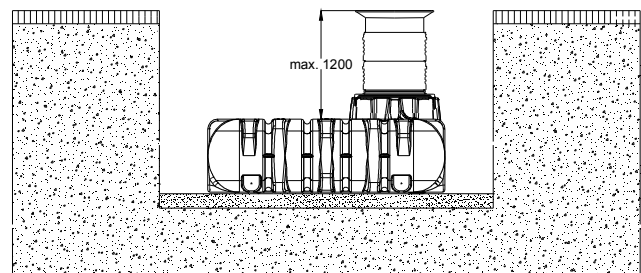
Coverage heights with drinking water telescopic dome shaft in green areas.

We generally recommend using the drinking water telescopic dome shaft planned for it.

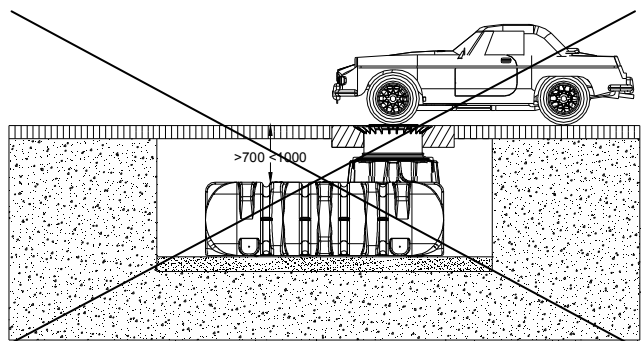


Maximum coverage heights with extension and drinking water telescopic dome shaft.

(in green areas only – not under areas used by passenger cars)

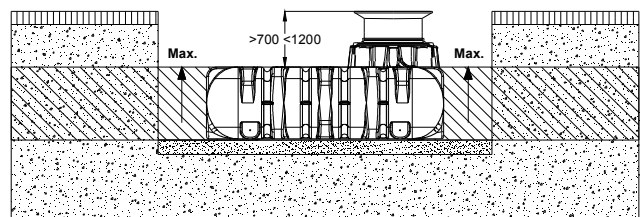


The tank must not be installed under traffic area
(drinking water telescopic dome shaft is not trafficable)

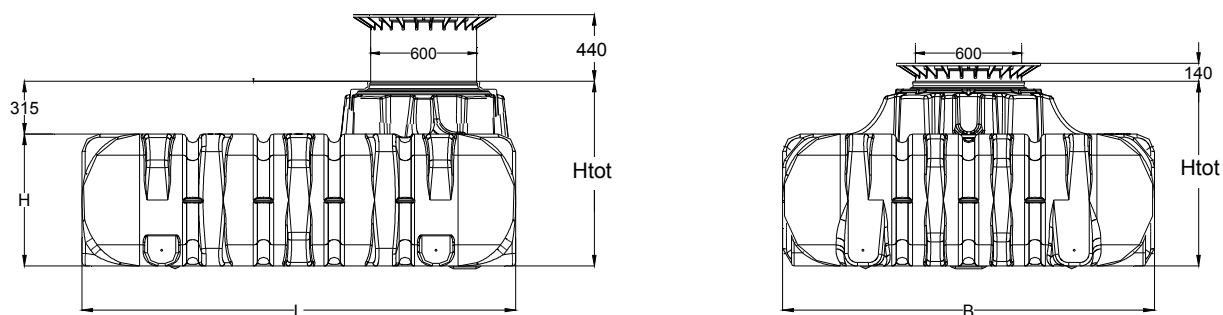


Coverage heights on installation in groundwater – the hatched area specifies the permissible immersion depth for the tank.

(not under areas used by passenger cars)



3. Technical data



Tank	1500 L	3000 L	5000 L
Art. No.	390600	390601	390602
Weight	82 kg	180 kg	250 kg
L	2100 mm	2450 mm	2890 mm
W	1250 mm	2100 mm	2300 mm
H	700 mm	735 mm	1000 mm
Htot*	1015 mm	1050 mm	1315 mm

* Htot = total height

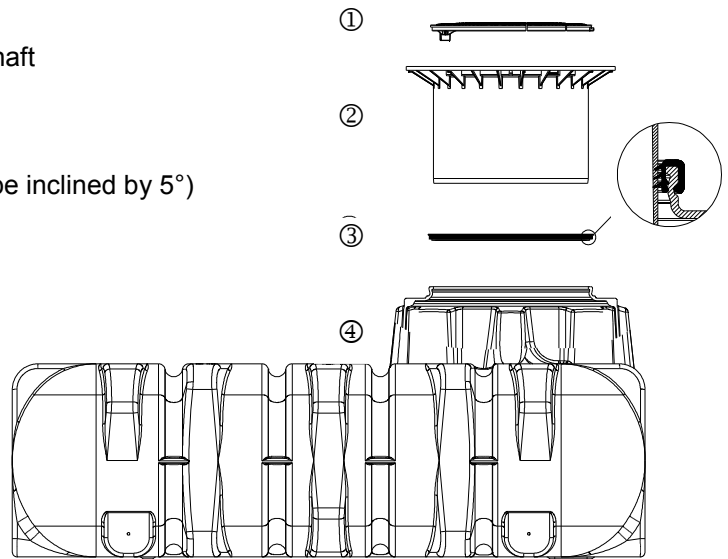
4. Tank structure

① Cover for drinking water telescopic dome shaft

② Drinking water telescopic dome shaft (can be inclined by 5°)

③ Profile seal

④ Tank dome



5. Installation and assembly

① Subsoil

② Drinking water telescopic dome shaft

③ Compacted foundation

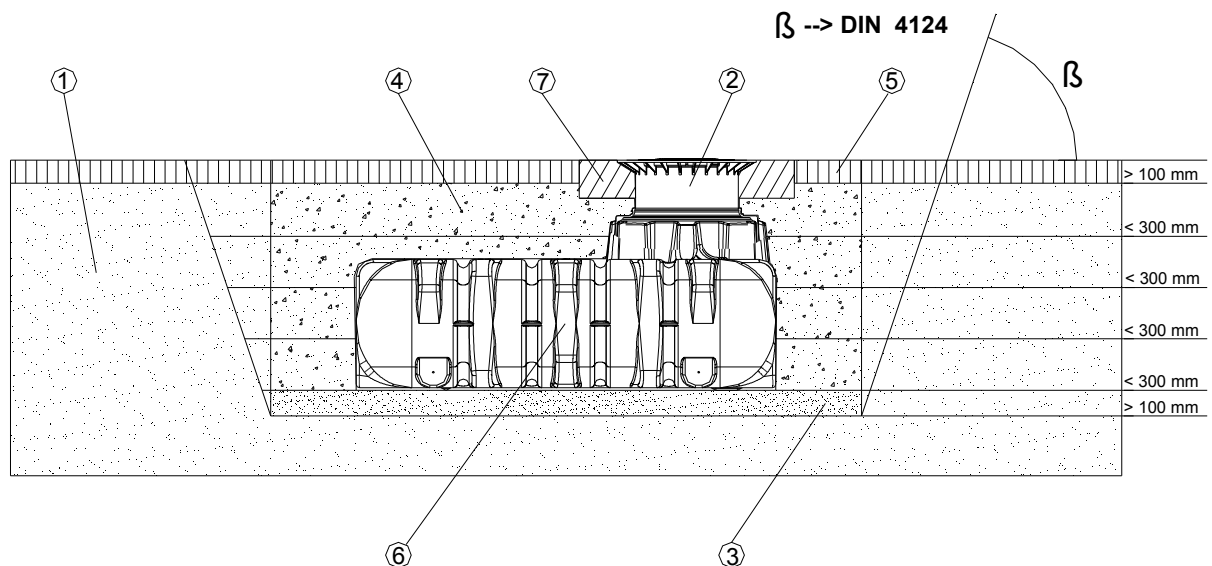
④ Surrounding (round-grained gravel, max. grain size 8/16)

⑤ Covering layer

⑥ PLATIN drinking water underground tank

⑦ Concrete layer for surfaces used by passenger cars

β --> DIN 4124 from 1250 mm depth of the trench



5. Installation and assembly

5.1 Construction site

Under all circumstances, the following points must be clarified prior to installation:

- The structural suitability of the ground according to DIN 18196
- Maximum groundwater levels which occur and drainage capability of the subsoil
- Types of load which occur, e.g. traffic loads

An expert ground report should be requested from the local planning authority to determine the physical characteristics of the subsoil.

5.2 Trench

To ensure that sufficient space is available for working, the base area of the trench must exceed the dimensions of the tank by > 100 mm on each side; the distance from solid constructions must be at least 1000 mm.

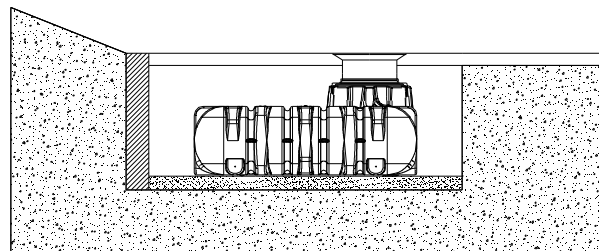
If the depth of the trench is > 1250 mm an embankment must be designed according to DIN 4124. The construction site must be horizontal and plane and must guarantee sufficient load-bearing capacity.

The depth of the trench must be dimensioned so that the max. earth coverage (see point 2 – installation conditions) above the tank is not exceeded. To use the system throughout the entire year, it is necessary to install the tank and those parts of the system which conduct water in the frost-free area. The frost-free depth is usually approx. 600 mm - 800 mm; precise information in this regard can be obtained from the responsible authority.

A layer of compacted, round-grain gravel (grain size 8/16, thickness approx. 100 - 150 mm) is applied as the foundation.

5.2.1 Slope, embankment, etc.

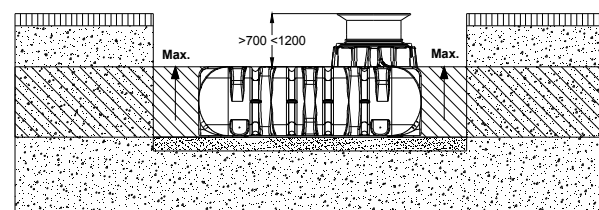
On installation of the tank in the immediate vicinity (< 5 m) of a slope, earthen mound or slope, a statically calculated supporting wall must be erected to absorb the soil pressure. The wall must exceed the dimensions of the tank by at least 500 mm in all directions, and must be located at least 1000 mm away from the tank.



5.2.2 Groundwater and cohesive (water-impermeable) soils (e.g. clay soil)

If it is anticipated that the tanks will be immersed deeper into the groundwater than is shown in the adjacent figure, sufficient dissipation must be ensured. (See table for max. immersion depth).

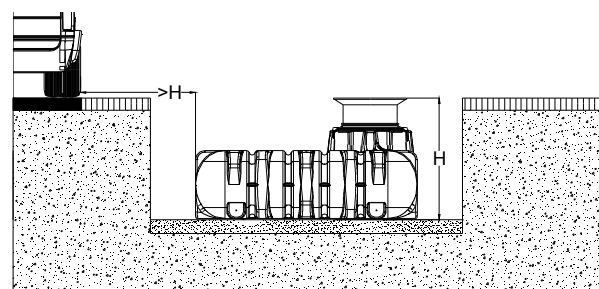
Dissipation of the drainage water (e.g. via an annular drainage system) is recommended in the case of cohesive, water-impermeable soils.



Tank	1500 L	3000 L	5000 L
max. immersion depth	700 mm	735 mm	1000 mm

5.2.3 Installation adjacent to surfaces used by vehicles

If the underground tanks are installed adjacent to surfaces which are used by heavy vehicles weighing over 3.5 t, the minimum distance away from these surfaces is at least the depth of the trench.



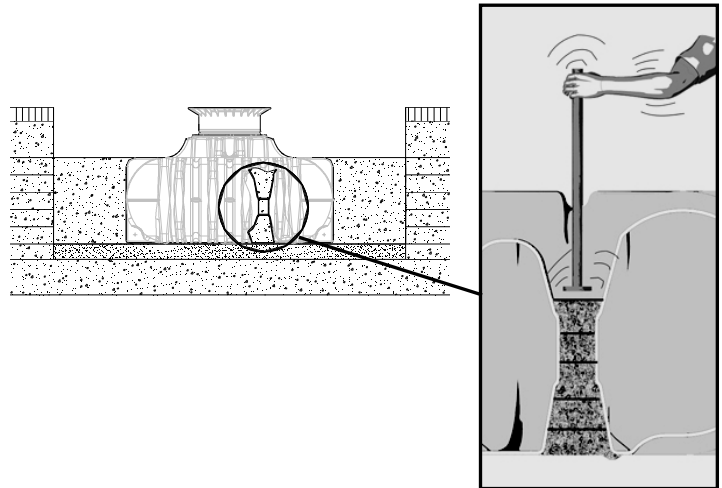
5. Installation and assembly

5.3 Insertion and filling

The tanks must be inserted, impact-free, into the prepared trench using suitable equipment. To avoid deformities, the tank is filled 1/3 with water before filling in the tank surrounding.

Afterwards the surrounding (roundgrain gravel, max. grain size 8/16) is then filled in layers of max. 30 cm steps and is compacted.

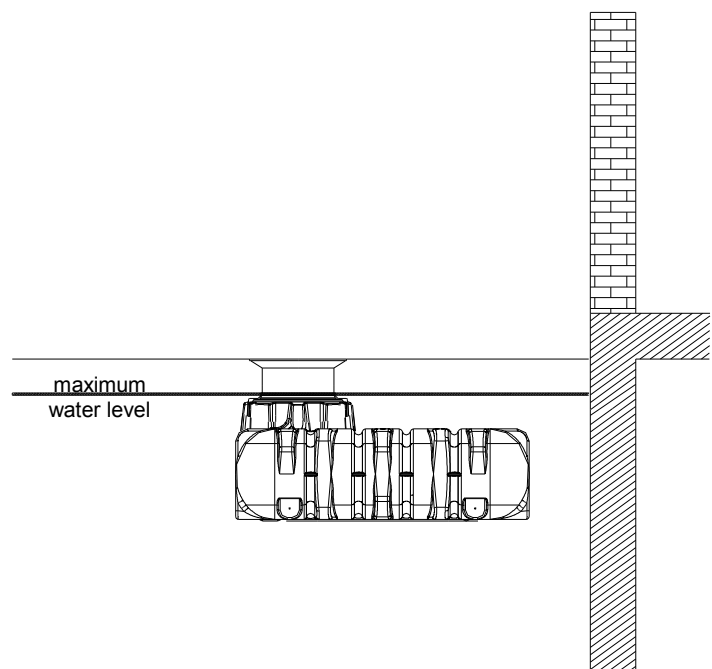
The individual layers as well as the medial support column must be well-compacted (manuel tamper). Damage to the tank must be avoided during compaction. Mechanical compaction machines must not be used under any circumstances. The surrounding towards the trench must be at least 100 mm wide.



5.4 Routing connections

All connections are to be attached at the tank dome in order to ensure that the maximum water level in the tank lies beneath the tank dome / telescope connection.

Attention: Please only use food safe materials (e.g. PE threaded connections) for the assembly of the connections).

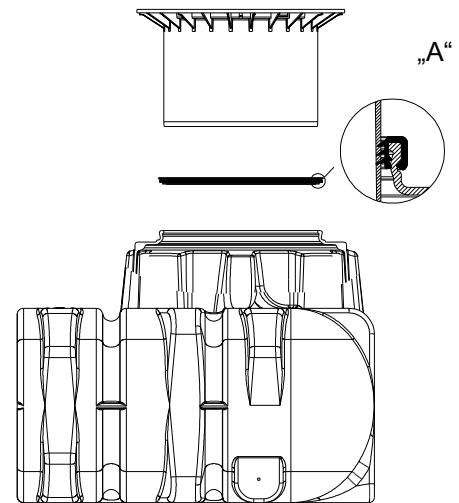
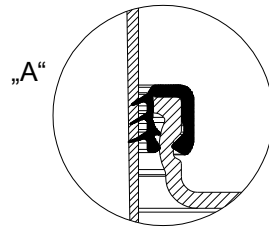


6. Assembling the drinking water telescopic dome shaft

6.1 Assembling the drinking water telescopic dome shaft

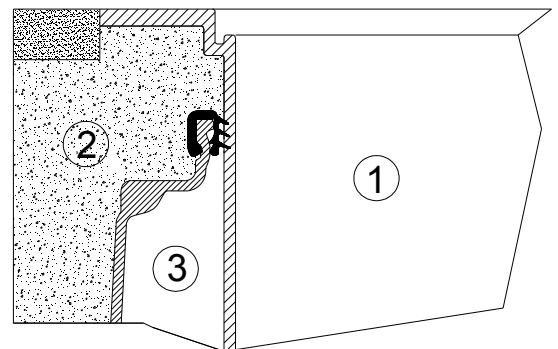
The drinking water telescopic dome shaft enables infinite adaptation of the tank to given site surfaces with earth coverage of between 455 mm and 755 mm.

For assembly purposes, the enclosed profile seal (material EPDM) is inserted into the tank dome's sealing groove and is coated generously with soft soap (do not use mineral oil-based lubricants, as these attack the seal). The drinking water telescope is then greased, inserted and aligned with the surface of the site.



6.2 Drinking water telescopic dome shaft on which persons may walk

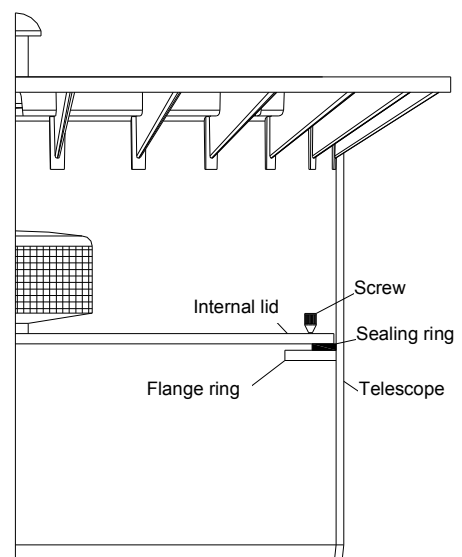
Important: To prevent loads from being transferred onto the tank, round-grain gravel ② (max. grain size 8/16) is filled in layers around the drinking water telescope ① and is evenly compacted. Damage to the tank dome ③ and telescope must be avoided during this step. The cover is then positioned and is sealed to prevent entry by children. **Tighten the threaded connection on the cover so tightly that it cannot be opened by a child!**



6.3 Internal lid

The drinking water telescope is equipped with a second internal lid. This is always to be kept closed except when working in the container. The lid is screwed onto the flange ring, whereupon all screws must then be screwed tight.

The seal must be in place around the entire circumference before the lid is positioned.



7. Assembly of the extension

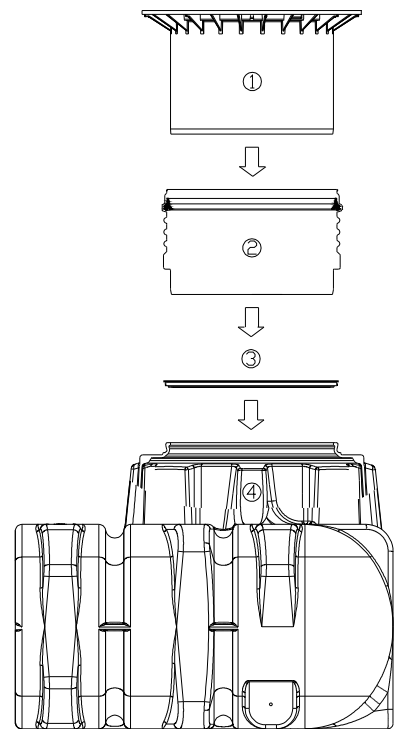
7.1 Assembling the extension

For larger coverage heights a extension is needed. To insert the extension into the tank dome, soft soap is needed. Into the highest groove of the extension the profile seal is inserted an greased generously. Afterwards push the drinking water telescopic dome shaft into the extension and adapt it to the planned area surface.

1 Extension = max. earth-cover 1055 mm

(in connection with drinking water telescopic dome shaft)

- ① Drinking water telescopic dome shaft (can be inclined by 5°)
- ② Extension
- ③ Profile seal
- ④ Tank dome Platin drinking water underground tank



8. Inspection and servicing

The entire system must be checked for leaks, cleanliness and stability at least every three months.

The entire system should be serviced at intervals of approx. 5 years. In this case, all parts of the system must be cleaned and their function checked. Servicing should be carried out as follows:

- Drain the tank completely
- Clean surfaces and internal parts with water
- Remove all dirt from the tank
- Check that all internal parts are firmly seated.

