

Instructions for installing and maintaining GRAF Herkules infiltration tank

GRAF – 1600 l Herkules infiltration tank

Order no.: 200201



The points described in these instructions must be observed in all cases. Failure to do so shall invalidate the warranty. For any additional items purchased through GRAF, you will receive separate installation instructions in the transport packaging.

Missing instructions should be requested without delay.

The tanks must be checked for any damage before the system is transferred to the trench.

You can download any missing instructions from www.graf.info or request them from GRAF directly.

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1. General information

All work should be undertaken in compliance with the relevant accident prevention regulations according to BGV C22. A second person is required for safety reasons, particularly when inspecting tanks.

In addition, the applicable regulations and standards must be respected during installation, assembly, maintenance, repairs etc. Relevant information can be found in the corresponding sections of these instructions.

The tank cover must always be kept closed, except during work inside the tank. If the cover is open, the risk of accidents is very high. Only original GRAF covers, or covers approved by GRAF in writing, are to be used.

GRAF provides an extensive range of accessories, which are all coordinated and can be combined 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

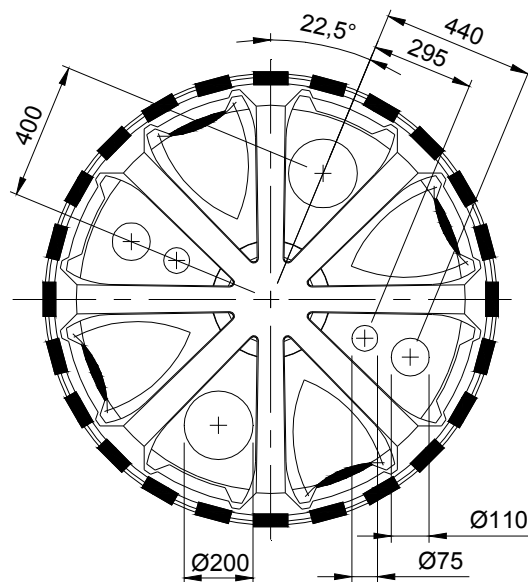
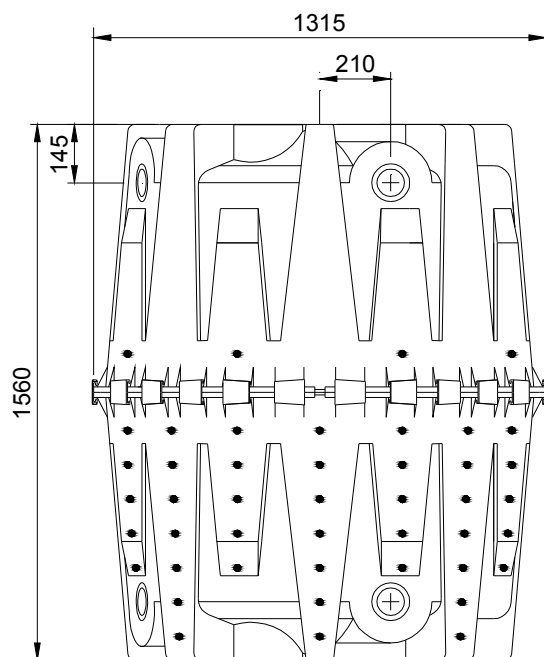
Mounting underground

- Using the support pipe allows the tank to be installed underground (max. earth covering 1000 mm)
- Should inspection work be required, the tank dome (art. no.: 322026) must also be installed.
- In the case of groundwater or a position on a slope, special installation guidelines must be followed. (See chapter 6.1.3)
- The tanks may only be installed in green areas suitable for pedestrian loading
- Other than the soil load, no other loads may impact on the tank. The distance from areas that can be driven on must be at least 2.6 m.
- The tank must not be subject to pressure (head of water)

Scope of supply

Product description	Quantity
Herkules infiltration half shell, top	1
Herkules infiltration half shell, bottom	1
Quick connector, green (24 items)	1
Herkules support pipe DN 150	1
KG caps DN 150 for support pipe	2

3. Technical data and scope of supply



Weight	Height	Diameter	Connection options at top
60 kg	1600 mm	1350 mm	2 x DN 70, 2 x DN 100, 2 x DN 200

4. Transport and storage

4.1 Transport

The tanks may only be transported by companies with appropriate means of transport and appropriately trained staff. The tanks must be secured to prevent shifting and falling during transport. If the tanks are secured for transport using tension belts, make sure that the tanks remain undamaged. The tanks must not be lashed or lifted with steel ropes or chains.

Impacts must be avoided at all costs. The tanks must in no event be rolled or pushed/pulled across the ground.

4.2 Storage

If the tanks have to be stored temporarily, they must be placed on a suitable, horizontal surface without any sharp objects. During storage, damage caused by environmental or external factors must be avoided. Unauthorised persons must be kept away from the tank.

5. Tank assembly

5.1 Trial assembly

Before the final assembly, a trial mounting of the tank should be undertaken to determine the following connections:

- Inlet
- Overflow (if present)
- Inspection end
- Ventilation

Once the connections have been opened, all drilling/sawing chips must be removed from the tank.

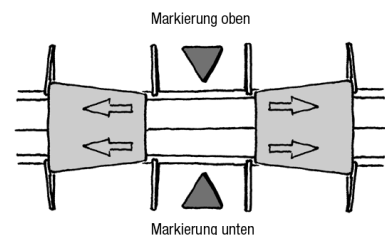
Laying connections

All lines must be laid with an incline of at least 1 %. Connections are made at pre-drilled openings on the tank or on the moulded connectors to be opened.

To allow ventilation/deaeration of the tank, a DN 100 KG pipe must be connected to a free opening which rises to the ventilation point (deaeration end art. no. 369017) . It is not permitted to connect the tank to the ventilation systems of other structures.

To connect the shells, the quick connectors are fitted to the right and left in turn. To do this, firstly pre-adjust every other connector by hand and then secure with a hammer and wood block. To make assembly easier, grease should be applied to the inner edges of the connectors. The connectors snap into their final position.

The remaining connectors are then fitted as described.



6. Underground installation

6.1 Underground installation

6.1.1 Foundation

The following criteria must be verified prior to installation:

- The structural suitability of the soil in accordance with DIN 18196

- Maximum groundwater levels / drainage of the subsoil
- Types of loading present, e.g. traffic load

A soil survey should be requested from the local building authority to determine the physical properties of the soil.

6.1.2 Pit

To ensure that sufficient working space is available, the base area of the pit must exceed the tank dimensions by 500 mm on all sides. The distance between infiltration systems and buildings should usually be approx. 6 m.

The embankment should be built in accordance with DIN 4124. The foundation must be horizontal and even and must offer sufficient load-bearing capacity.

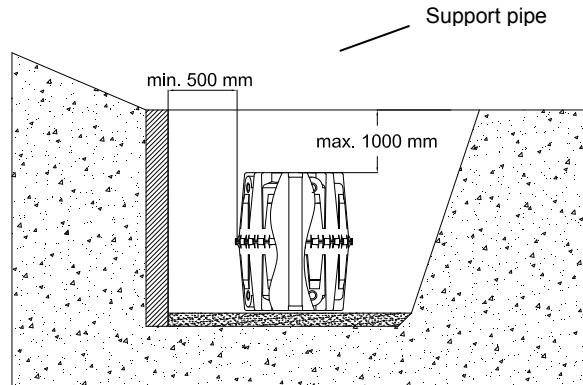
The trench must be deep enough that the maximum earth cover above the tank (see chapter 2) is not exceeded. For the system to be usable all year round, the tank and water-carrying parts must be installed in a frost-free zone. The frost-free depth is usually around 800 mm; for accurate information, please contact the responsible authority.

The substructure is made from a layer of compacted round gravel (grain 8/16 in accordance with DIN 4226-1, approx. 150-200 mm thick).

6. Underground installation

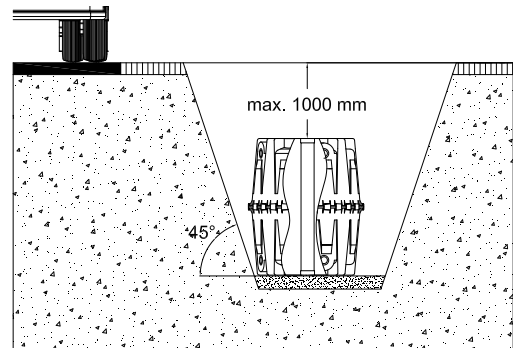
6.1.3 Positioning on a slope, embankment etc.

If the tank is installed in immediate proximity (less than 5 m) to a slope, mound or embankment, a statically calculated supporting wall must be constructed to bear the pressure of the soil. The wall must exceed the tank dimensions by at least 500 mm in all directions and must be at least 500 mm away from the tank.



6.1.4 Installation adjacent to areas that can be driven on

If installing the tanks next to surfaces which are driven over, ensure that the loads produced by heavy vehicles are not transferred to the tank. The angle of the connecting line between the outer edge of the roadway and bottom edge of the tank may be max. 45°, i.e. the minimum distance to the area that is driven on is 2.6 m.



6.1.5 Connecting several tanks

Two or more tanks are connected by means of the mounting faces on the bottom of the tank, GRAF special seals and underground pipes (provided by the customer). The openings must only be drilled with the GRAF special core drill and to the appropriate size. Ensure that the distance between the tanks is at least 800 mm. The underground pipes must extend at least 200 mm into the tanks. If two or more tanks are interconnected, a connection at the top must be produced for ventilation and deaeration in addition to the connection at the bottom.

6.1.6. Geo textile

To prevent soil from entering the tank, we recommend encasing the tank with a geo textile art. no: 202005. The geo textile should be laid out before placing the tank in the pit.

6.1.7 Insertion and filling

Once the lines have been routed and attached, the tank is positioned in the centre of the pit on the geo textile. The tanks should be brought into the prepared trench with a suitable device without any jolts. The geo textile is secured to the tank body with adhesive strips.

To avoid deformations, the filling is filled in layers in steps of max. 30 cm. The individual layers must be properly compacted with a hand tamper. Be careful to avoid damaging the tank when compacting. Mechanical compacting machines must not be used under any circumstances. The surround must be at least 500 mm wide. It is important that the tank and geo textile are firmly bedded in evenly from each side.