



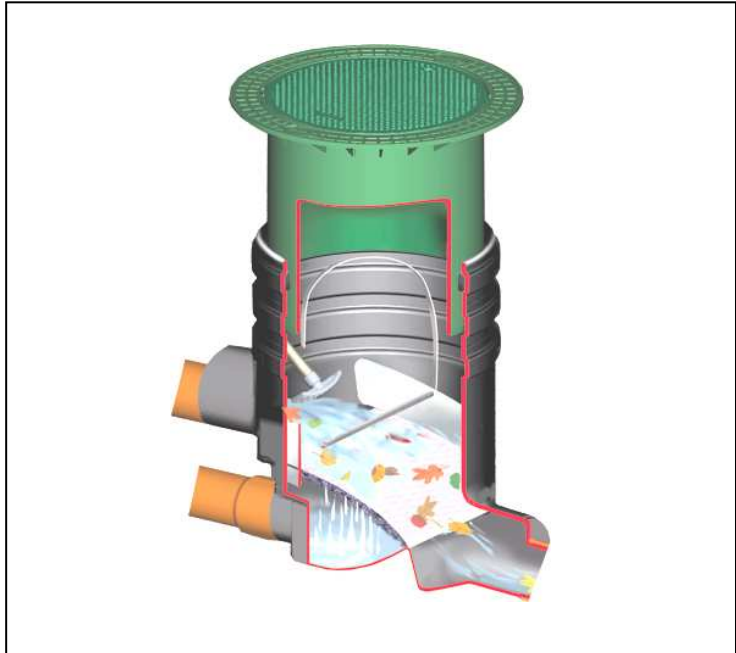
Installation instructions and maintenance for the GRAF Optimax[®] filter external

Optimax[®] external filter for green areas (pedestrian weight resistant)

Order- No 340030

Optimax[®] external filter for light traffic areas

Order- No 340031



The points described in these instructions must be followed correctly. If not correctly observed, any right to claim on the guarantee may be refused. For all additional GRAF articles purchased there are separate installation instructions enclosed in the transportation packing.

Any missing instructions must be requested directly from us.

A complete check of the tank for possible damage must be carried out before the installation in the excavation begins.

The installation must be carried out by a professional firm.

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1. General notes

1.1 Safety

When working, the appropriate accident prevention regulations (in Germany BGV C22) must be followed. For safety reasons, especially when entering the tank, it is important that a second person is present.

Furthermore, when carrying out assembly and installation work, inspection, maintenance and repairs, all work regulations and norms must be followed. You will find the advice in the appropriate sections of these instructions.

The installation of the system and/or single equipment parts must be carried out by a professional worker.

The complete system must always be out of operation and guarded against unauthorized use when carrying out work on the plant or parts of the system.

The tank cover must always remain closed except when working in the tank, otherwise there exists a very high danger of accidents. The seating and condition of the cover must be checked on a regular basis.

The GRAF Company offers an extensive range of accessories that are all compatible with one another and may be used to construct a complete system. The use of other manufacturer's accessories can impair the function of the system and liability for any resulting damages will no longer be covered under the guarantee.

1.2 Labelling/Tagging obligation

All pipe work and outlets of the water systems are to be labelled with the words “**Not drinking water**” either in words or graphically (German norm DIN 1988 Part 2, paragraph 3.3.2.) so that after years of use, an accidental connection to the drinking water system is prevented. Even when correctly labelled it may possibly be mistaken, for example by children. For this reason, all the outlets of the systems process water must be fitted with child safe valves.

2. Installation requirements

2.1 Optimax® external filter for pedestrian areas

- The Filter with the green telescopic attachment and cover may only be installed in a green area that is not traversed by traffic.
- The amount of short-term load of the polyethylene cover is max. 150 kg, the long-term area load max. 50 kg
- The maximum installation depth to the filter bottom is 1050 mm.
- The filter is suitable for roof surfaces up to 350 m²

2.2 Optimax® external filter for light traffic areas

- Through the use of the telescopic attachment (anthracite) and the cast iron cover Class B according to DIN EN 124 the filter may be installed in areas traversed by light traffic. Under no circumstances are the tanks to be installed in areas traversed by heavy goods vehicles or machinery (see point 5.3.2)
- The earth covering above the inlet supply pipe must be at least 450 mm; the maximum installation depth to the filter bottom is 1050 mm.
- The filter is suitable for roof surfaces up to 350 m²

3. Transport and storage

3.1 Transport

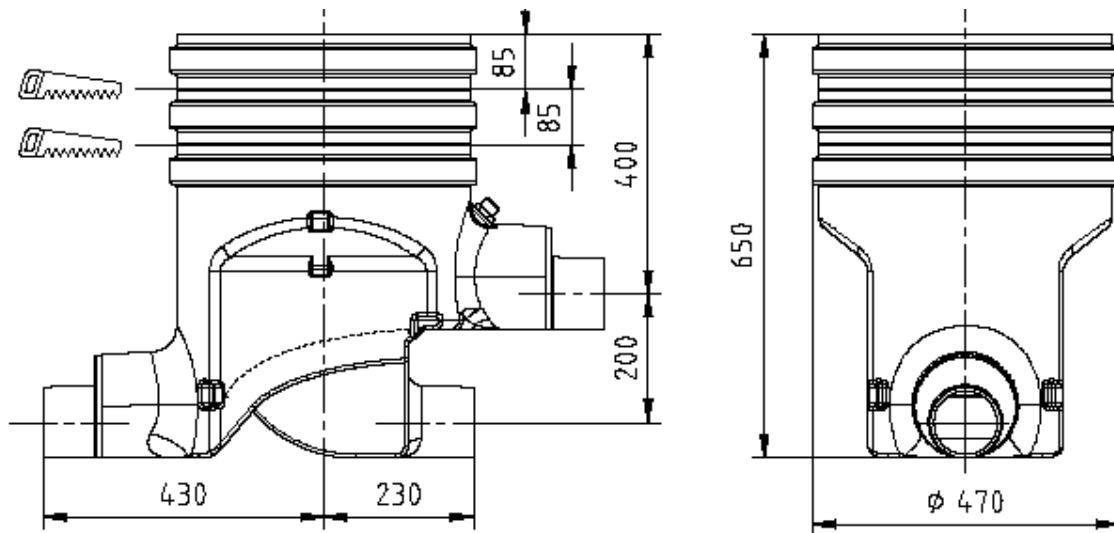
During the transport the filter must be well secured against slipping or falling. If the Filter is to be secured for transportation with webbing straps, it is to be ensured that the filter remains undamaged.

Stress and excess loading caused by impact are to be avoided. Under no circumstances is the filter to be rolled or slid over the ground surface.

3.2 Storage

Any necessary temporary storage of the filter must be on an appropriate level surface without sharp objects. During the storage it is important to avoid damage caused by the surrounding environment or foreign objects.

4. Technical data



5. Assembly and installation of external Filter

5.1 Preparation of the excavation

So that sufficient working room is available and the filter can be evenly embedded, the surface area of the excavation should exceed the filter dimensions on all sides by approximately 50 cm. The excavation slope is according to DIN 4124. The installation excavation must be level and smooth. The depth of the excavation must be measured so that the final installation depth of the filter underside is a maximum 1050 mm. As an under surface for setting down, a layer of smooth sand with a grain size of 8/16 according to DIN 4226 – 1 and a layer depth of approximately 10 cm should be used.

Important: The setting down surface for the filter must be absolutely level to ensure an optional performance.

5.2 Placing in the excavation and laying the connections

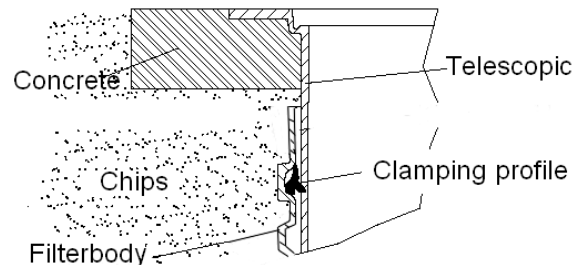
The filter is installed in the prepared excavation and is then connected to the relevant pipes etc. Attention, it is important to note that all the pipes to be installed must have a gradient of at least 1% in the flow direction without sagging or bending downward. To effectively reduce the rate of flow of the incoming water, about 2 m horizontally is installed in the pipe before the filter. This has the effect of improving filtration and so increasing the amount of water able to pass through the filter into the tank.

Important: It is important to follow the DIN 1986 – this requires \varnothing inlet = \varnothing outlet.

5.3 Telescope installation

5.3.1 Telescope pedestrian resistant

The telescope is pressed into the filter housing from above. For excavation depths < 900 mm the telescopic attachment and in some circumstances, the filter housing must be shortened. It is important to pay attention that the inlet pipe is not obstructed in any way by the telescope when installed. Before pushing in the telescope the profiled sealing ring is placed in the housing's recess. The telescope and the sealing ring must be thoroughly coated with the lubricating soap included in the delivery (use no lubrication that is mineral oil based). **Attention:** If the lubricating soap becomes dry and the telescope becomes difficult to move then there is the danger that the sealing ring will be forced out of its recess. Before filling the sealing ring must be checked once again that it is seated correctly in position. The telescope must be sufficiently embedded and supported that no forces are transferred to the housing.



5.3.2 Telescope suitable for light traffic

The telescope is installed as in Point 5.3.1. To ensure the function in areas traversed by light traffic, the telescope must be embedded around the collar with lean mixed concrete. The concrete encasement must be uninterrupted, 20 cm wide and approximately 30 cm deep. **Attention:** It is important to use the cast steel cover. Transport vehicle weight of heavy goods vehicles and machinery is not permitted. The telescope must be sufficiently embedded and supported that no forces are transferred to the housing.

5. Assembly and installation of external Filter

5.4 Filling

Important: Before and during the filling, the horizontal position of the filter must be checked. The lengthwise embedding of the filter is with smooth sand with a grain size of 8/16 according to DIN 4226 – 1 with a width of approximately 30 cm. Each layer is to be of no more than 30 cm and must be tamped down lightly with a compacting machine or hand held tamper. Care must be taken during the embedding to ensure the filter is not damaged. To ensure that no forces are applied to the filter housing, the telescope must be well embedded and compacted. (For areas traversed by light traffic see section 5.3.2) Finally, the cover is set in place and secured so that it is child proof (Section 1.1 must be followed). **The screws holding down the cover are to be made so tight that they can not be removed and the cover opened by a child!**

5.5 Installation and removal (lift out mechanism)

To facilitate removal of the filter unit in cases of a deeper installation, the removal – lift out mechanism that is included in the delivery pack should also be assembled. The screws of the upper connecting rod should be employed for the assembly.



6. Commissioning and Service

6.1 Commissioning

Before putting the system into use the filter surface is to be thoroughly cleaned with a brush and a solvent based cleaning fluid. Alternatively the filter sieve may be cleaned in a dish washer (40° - max. 60°). Any dirt that gets into the filter housing during the assembly must be thoroughly removed.

6.2 Service

The complete system is to be inspected at least every 3 months for leakage, cleanliness stability. The filter surface should be cleaned approximately every 3 months or according to local requirements (see point 6.1).