

Installation and maintenance instructions for GRAF Drainstar filter external XL

**Drainstar filter external XL
pedestrian**

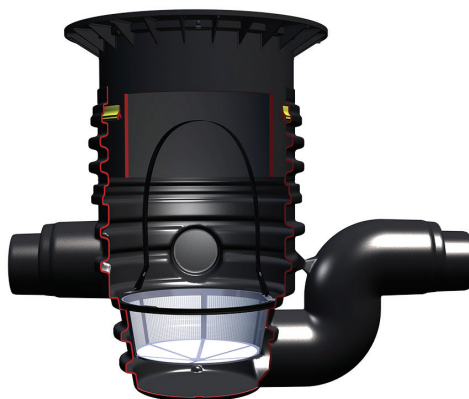
Order-No. 340156

**Drainstar filter external XL
vehicle**

Order-No. 340157

**Drainstar filter external XL
heavy goods vehicle**

Order-No. 340158



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 components 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

While 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 is 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 manufacturers' accessories can impair the function of the system and liability for any resulting damages will no longer be covered under the guarantee.

2. Transport and storage

2.1 Transport

During the transport the components of the filter system must be well secured against slipping or falling. If the components are to be secured for transportation with webbing straps, it is to be ensured that they remain undamaged.

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

2.2 Storage

Any necessary temporary storage of the filters 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.

3. Installation requirements

3.1 Drainstar filter external XL pedestrian

- The filter system with the green telescopic attachment and cover may only be installed in green areas that are 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 invert of the filter is 3100 mm.
- Roof areas provided with a pipe connection of DN 200 = 1200 m² and for DN 250 = 2000 m².

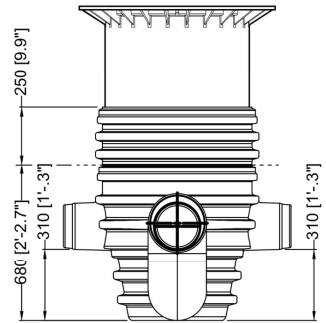
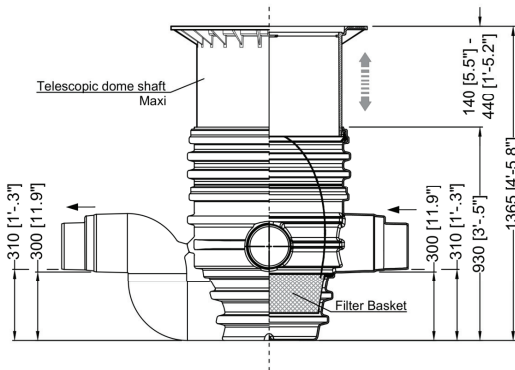
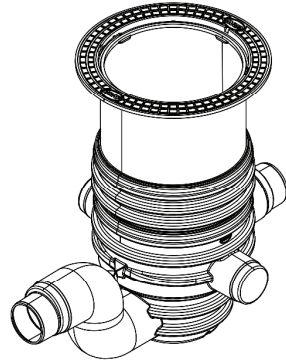
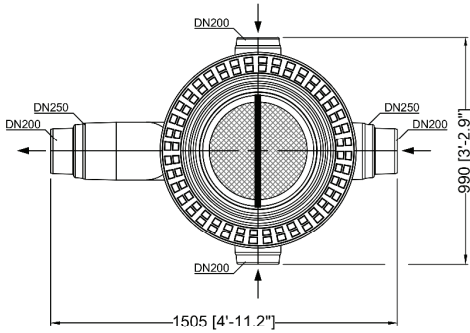
3.2 Drainstar filter external XL vehicle

- Through the use of the telescopic dome shaft with cast iron lid (class B) according to DIN EN 124, the filter may be installed in areas traversed by car traffic (see 5.5.2).
- The earth covering above the inlet supply pipe must be at least 450 mm.
- The maximum installation depth to the invert of the filter is 2600 mm.
- Roof areas provided with a pipe connection of DN 200 = 1200 m² and for DN 250 = 2000 m².

3.3 Drainstar filter external XL heavy goods vehicle

- Through the use of the telescopic dome shaft BEGU (class D) according to DIN EN 124, the filter may be installed in areas traversed by heavy goods vehicle traffic (see 5.5.3).
- The earth covering above the inlet supply pipe must be at least 450 mm.
- The maximum installation depth to the invert of the filter is 2600 mm.
- Roof areas provided with a pipe connection of DN 200 = 1200 m² and for DN 250 = 2000 m².

4. Technical data



5. Installation and assembly

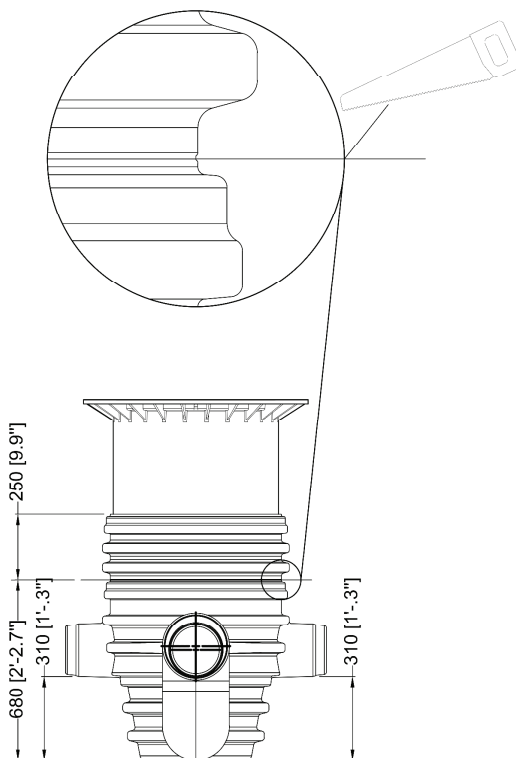
5.1 Preparation of the excavation

So that sufficient work space is available and the filter can be evenly embedded, the surface area of the excavation should exceed the filter dimensions by at least 300 mm on all sides. If necessary an embankment is to be created according to DIN 4124. The installations excavation must be level and smooth and must guarantee a sufficient load capacity. The depth of the excavation must be dimensioned such that the maximum installation depth to the filter bottom is not exceeded. As a stable substrate, a layer of rounded gravel (granulation 8/16 according to DIN 4226-1) must be laid with a thickness of at least 100 mm.

Important: In order to be able to use the system all year round, the water carrying parts must be installed in frost-free areas.

5.2 Preparation of Drainstar filter external XL

The desired installation depth can be adjusted by cutting off the filter.



5. Installation and assembly

5.3 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.

Important: DIN 1986 must be followed, therefore the diameter of the supply pipe = the diameter of the run-off pipe.

5.4 Filling

The filter system is to be placed in the prepared excavation pit in a horizontal position without shocks.

It is essential to check the correct position of the filter system before and during filling. The filter encasement is manufactured layer by layer with rounded gravel (granulation 8/16 according to DIN 4226-1) to a width of approx. 300 mm. The individual layers are laid in heights of 300 mm and compacted afterwards with a light compacting machine (hand rammer). It is essential to avoid damage to the filter housing during compaction. So that no forces are transmitted to the filter housing, the telescopic dome shaft cover must be lined accordingly and vibrated in. In the case of areas subject to car or truck traffic, please note 5.5.2 or 5.5.3 respectively. The cover is subsequently placed in position and locked with a childproof lock.

5.5 Mounting the telescopic dome shaft cover

The telescopic dome shaft cover allows the stepless adaptation of the filter system to the ground surface. It is to be made absolutely certain that the inlet is not totally or partly blocked by the telescope in the finally installed state. It may be necessary to shorten the telescope – this is easily done from below.

Before inserting the telescopic dome shaft cover, the profile seal is inserted into the sealing groove in the housing. The telescope and the seal must be generously greased with the soft soap supplied (do not use petroleum-based lubricants).

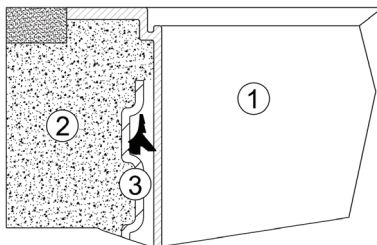
Attention: If the soft soap dries, the telescopic dome shaft cover can only be moved with great difficulty and therefore there is a risk of the seal slipping out of the sealing groove. It must be checked before filling that the seal is seated correctly.

5. Installation and assembly

5.5.1 Telescope pedestrian resistant

The telescope must be adequately lined, so that the load forces can in no case be transmitted to the filter housing ③. In order to prevent the transfer of loads to the filter housing, rounded gravel ② (max. granulation 8/16) is filled layer by layer around the telescope ① (colour: green) and evenly compacted. Damage to the filter and/or the telescope is thereby to be avoided.

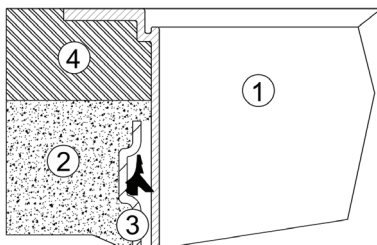
Important: The cover is subsequently placed in position and locked with a childproof lock



5.5.2 Telescopic dome shaft suitable for vehicle loading (class B)

If the filter is installed under areas used by passenger cars, the collar area of the telescope ① (colour anthracite) must be supported with concrete ④ (load class B25 = 250 kg/m²). The concrete layer to be poured around the telescope must be at least 300 mm wide and approx. 200 mm high all round so that the load forces can in no case be transmitted to the filter housing ③.

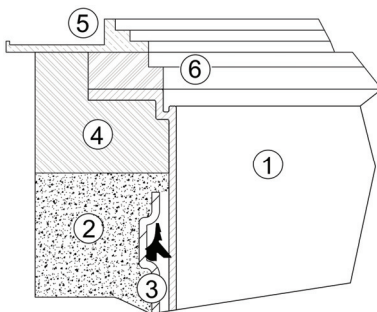
Attention: It is imperative to use the cast cover class B.



5.5.3 Telescopic dome shaft cover suitable for heavy goods vehicle (class D)

In the case of installation under areas subject to heavy goods vehicle traffic, the telescope ① (colour: anthracite) is lined as mentioned above. The cast frame ⑤ or the concrete rings ⑥ (both to be provided by the customer) are subsequently installed for the load distribution of the cast cover. The cast frame must have a bearing surface of approx. 1 m², so that the load forces can in no case be transmitted to the filter housing ③.

Attention: It is imperative to use the cast cover class D.



6. 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:

- Remove solid residues with a soft spatula
- Clean surfaces and built-in parts with water
- Remove all dirt completely from the shaft or filter basket
- Check that all internal parts are firmly seated

Attention: The outlet must be checked and flushed if necessary at each service!