

# Rigofill ST/ST-B maintenance manual

## 1. General planning instructions

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The maintenance effort for an infiltration/storage system greatly depends on the degree of pollution of the connected areas and subsequently on the pollution load of the discharged water.

Generally, prevention of dirt ingress should already be considered in the planning phase. This can mean in particular: An upstream filter and/or cleaning unit that filters particles and light liquids from the water to prevent them from impairing the operational capability of the infiltration/storage system. The treatment systems are normally designed also to ensure easy, centralised and, above all, continuous maintenance in order to minimise the maintenance costs of a block system with an intended service life of 50 years.

For roof surfaces, retention should preferably be provided already in/on the gutter system (foliage). In addition to our maintenance recommendations, we strongly recommend observing the relevant provisions as applicable.

## 2. Maintenance intervals

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During construction, always make sure that neither dirt nor foreign objects enter the shafts. During and immediately after the construction phase, increased contaminant load from the connected areas can be expected.

The first check (and, if required, adjustment) of the infiltration system should be made after completion and before the handover of the system.

A visual inspection of the system and shafts as well as a camera inspection of the infiltration elements is recommended. A standard sewer camera for pipe diameters  $\geq$  DN 200 can be used for this purpose. A rotatable and height-adjustable camera head coupled with high-performance optics and lighting allows for an optimal view of the statically relevant components as well as the lateral geotextile and/or membrane surfaces. In this way, quick and easy visual check of the quality of pipe connections can also be conducted. The results should be recorded in a log. Further inspections are to be defined project-specifically. The intervals also depend on whether there is an upstream treatment system and what quality it has.

## 3. Inspection

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Our Rigofill blocks and QuadroControl shafts have been designed for the use of modern CCTV inspection technology.

The inspectability of the Rigofill ST and QuadroControl ST system unit has been tested and confirmed by leading manufacturers of pipe CCTV inspection equipment!



Pipe inspection cameras  $\geq$  DN 200 can get access to the inspection tunnels of the adjacent storage/infiltration modules through the QuadroControl shaft integrated into the storage/infiltration module. The cross-shaped inspection tunnel inside the shaft allows the maintenance equipment to leave the shaft in four dimensions as well.

The special and open design of the Rigofill block allows for an unobstructed view of the entire interior and not only the inspection tunnel. The optimal, level and vibration-free running surface of the inspection tunnel allows optimal video quality.

Thanks to the special shape of the columns as well as their arrangement next to the inspection tunnel, the CCTV inspection camera and the cleaning nozzle are securely guided through the inside of the block system and also prevented from potential deviation from the route.



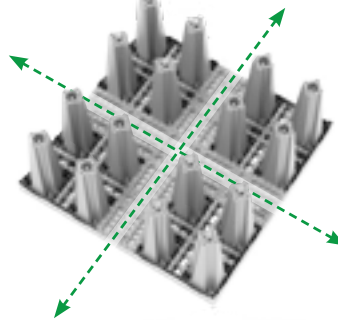
## 4. Cleaning

### 4.1. Rigofill ST

The block system can be flushed by means of sewer cleaning equipment via the cross-shaped tunnels of Rigofill ST.



Cross-shaped inspection/maintenance tunnel



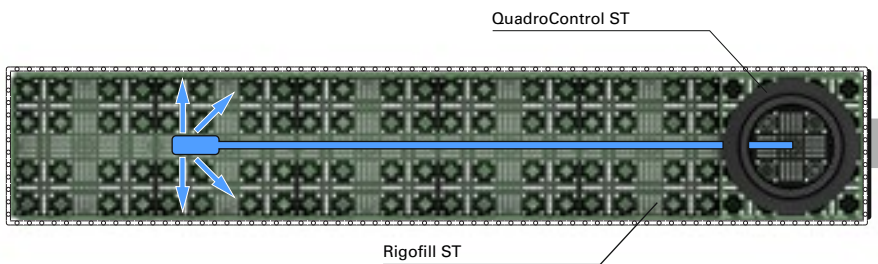
Rigofill ST can be cleaned with a flushing pressure of approx. 90–120 bar.

The flush water transports the dirt to the QuadroControl ST inspection shaft and is extracted there.

We recommend that a 90° rotatable nozzle with an additional 45° rotation angle should be used.

#### Note

**Please use the lower tunnel of the shaft for inspection and cleaning purposes!**



The materials like sludge and sand as well as the flushing water taken out of the tank may contain hydrocarbons and heavy metals. These have to be disposed of according to the local regulations.



## 4.2. Filter sets for swale inlets

The filter sets consisting of a sand trap (bucket) and a filter sack (please keep the size of the connected area in mind), or sediment traps under shaft covers with ventilation openings are based on the principle of retaining and accumulating solids. The accumulated dirt has to be disposed of regularly. Regular maintenance is important for a long service life of the complete retention system.

Depending on the dirt transported in the incoming water and the calculated safety factor, much shorter cleaning intervals may be required (in some cases, within a few weeks only) – this generally applies to spring and autumn. We therefore recommend starting with control and cleaning intervals of a few weeks only and, depending on the respective degree of pollution, the interval may then be extended. In Europe, the critical time is usually spring because of the pollen in the air.

The filter sack is attached to the bucket by pulling the cord of its rim over that of the bucket. Use the handle to pull the bucket out of the shaft – a hook can make it easier to pull the bucket out. If there is dirt in the filter sack, it has to be disposed of as well. If necessary, the dirt can be flushed out.

The original permeability of the geotextile may be lost over time, thus (after several years) the filter sack may potentially have to be exchanged – please use our replacement set if necessary.

Avoid taking out the filter set over a longer period, since it may lead to a blockage of the entire storage/infiltration module.

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