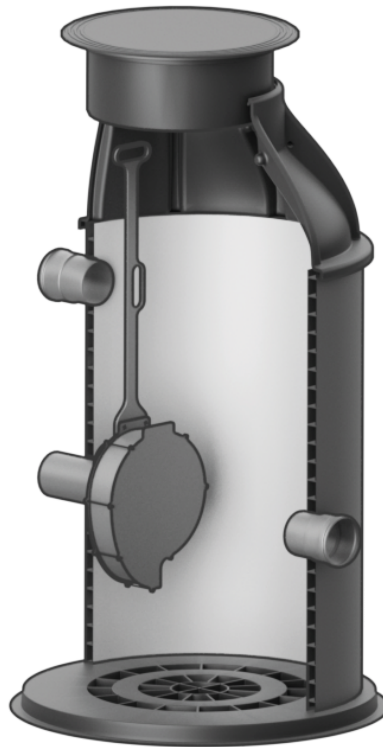


Installation and Maintenance Manual

Stormwise - Technical Chambers



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Ebnatstrasse 111

8201 Schaffhausen

Switzerland

Original installation and maintenance manual

Disclaimer

The technical data within this document is not binding. It does not constitute expressly warranted characteristics, guaranteed properties or guaranteed durability. It is subject to modification. Our General Terms of Sale apply.

Observe the installation and maintenance manual

The installation and maintenance manual is part of the product and an important element within the safety concept.

- ▶ Read and observe the installation and maintenance manual.
- ▶ Always have the installation and maintenance manual available by the product.
- ▶ Give this installation and maintenance manual to all subsequent users of the product.

Issue History

Version	Date	Changes
1.0	2026/03	First edition

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1 About this document

This installation and maintenance manual describes the lifecycle of Stormwise technical chambers from transport, installation and operation to maintenance, troubleshooting and disposal as well as safety information.

1.1 Target group

The following persons must read and observe this installation and maintenance manual:

- Persons who transport and install the technical chamber
- Persons who operate, maintain or troubleshoot the technical chamber
- Persons who dispose of the technical chamber

1.2 Notes on technical documentation

The technical documentation comprises the following documents:

Documents

Installation and maintenance manual

Technical drawings

Fact sheets

These documents are available at www.gfps.com or from the local representative of GF Industry and Infrastructure Flow Solutions.

The following rules apply to technical documentation:

- ▶ Replace old versions with new versions.
- ▶ Include all additional documentation.
- ▶ Pass documentation on to the new owner.
- ▶ Regularly check for the latest version.

1.3 Customer service

- Information regarding warranty is included in the GF terms and conditions.
- Visit our webpage to get in touch with your local specialist regarding any questions about your GF solution, required trainings or any form of customer service: www.gfps.com/our-locations

1.4 Copyright

Without express written consent from GF Industry and Infrastructure Flow Solutions no part of this document may be copied, transmitted by photographic means, reproduced, translated and stored on another electronic medium.

1.5 Related standards and regulations

Standard	Content	Application
DIN 16961	Classification, dimensions, tolerances & delivery conditions for thermoplastic profile-wall pipes	Sewer pipes, wastewater
DIN EN 13476	Requirements & testing for structured-wall plastic pipes (PVC U, PP, PE)	Sewer pipes, wastewater
DIN EN 13598	Specifies requirements, testing procedures, materials, sizes, performance, and labeling for inspection chambers and manholes	Gravity sewer and drainage systems located underground and outside of buildings
EN 1610	Installation and testing of wastewater pipes and sewers	Wastewater construction and testing
EN 12201	PE piping systems for water supply and pressure sewerage	Water supply and pressure sewer systems
DIN 18300	Technical rules for earthworks, soil/rock classification, excavation requirements	Earthworks, trenching, pipe bedding
DWA-A 139	National rules for installation & testing of wastewater pipelines (supplement to EN 1610)	Sewer construction, quality assurance
DVS 2207	Welding procedures for PE pipes (butt, socket, electrofusion)	PE pipe welding for water, gas, wastewater
ISO 12176	Requirements for equipment used for PE welding	Quality assurance of welding equipment
DVS 2202	Evaluation of welded joints, defect classification, acceptance criteria	Inspection & quality control of PE welds
DIN EN 1917	Requirements for concrete inspection chambers	Sewer manholes, access structures

1.6 Notes on reading this manual

Symbols

Symbol	Meaning
•	Listed in no particular order
▶	Call for action: here, something has to be done
1.	Call for action in a pre-defined order: here, something has to be done in the specified order

Abbreviations

Abbreviation	Indication
GF	GF Industry and Infrastructure Flow Solutions

2 Safety information

2.1 Purpose of safety information

Safety information warns of hazards that could lead to bodily injury and damage to property. Always observe and follow safety instructions to prevent accidents and injuries from occurring.

The safety instructions apply to the intended use of the product (see page 8).

The safety instructions do not cover the following:

- Incidental events occurring during installation, operation and service
- Local and site-related safety regulations

2.2 Meaning of signal words

In this installation and maintenance manual, warnings are used, which warn the user of death, injuries or material damage. Always read and observe these warnings!

DANGER!

Imminent danger!

Non-observance may result in major injuries or death.

- ▶ Measures to avoid the danger.

WARNING!

Possible danger!

Non-observance may result in serious injuries.

- ▶ Measures to avoid the danger.

CAUTION!

Dangerous situation!

Non-observance may result in minor injuries.

- ▶ Measures to avoid the danger.

NOTICE!

Avoid the situation!

Non-observance may result in property damage.

2.3 Intended use

A GF Stormwise technical chamber for flow regulation is attached to a water retention system such as a tank or a natural water body. Depending on the type of the technical chamber, it is used to either maintain a constant flow through the retention system or to keep the water level in the retention system at a constant level.

GF Industry and Infrastructure Flow Solutions accepts no liability for damage resulting from incorrect handling of the product and product components (see page 9).

Use is only considered intended if the operator observes the following:

- Use the product as described in the operating instructions
- Use within the limits specified in the technical data
- Only qualified and trained personnel carry out all activities
- Keep persons who are not working on the product at a safe distance from hazardous and operating areas
- Use spare and wear parts that comply with original part specifications
- Replace wear parts within the specified intervals

2.4 Reasonably foreseeable misuse

Any use other than that described for the intended use is not in accordance with the intended use and is therefore not permitted.

The following actions are considered misuse:

- Any use above and beyond intended use
- Alterations or modifications without the knowledge and consent of GF Industry and Infrastructure Flow Solutions
- Circumventing or removing protective equipment and safety measures
- Installing or using unsuitable products in safety-relevant applications

GF Industry and Infrastructure Flow Solutions accepts no liability for damage resulting from improper use. The risks associated with improper use are the sole responsibility of the user.

2.5 Obligations of the operator

The operator undertakes to implement measures arising from content in the technical documentation. This includes in particular:

- Ensuring compliance with laws and regulations currently applicable at the site
- Clearly marking hazardous areas
- Training and instructing personnel
- Providing personal protective equipment
- Enforcing prohibitions and mandatory requirements
- Ensuring devices to secure the shut-off elements are fitted
- Ensuring signs warning against uncontrolled reactivation are provided

2.6 Personnel requirements

Personnel who carry out installation, operation and maintenance are subject to strict requirements.



WARNING!

Injury because of insufficient personnel qualification!

Danger of injury when unqualified personnel carry out installation, operation and maintenance.

- ▶ Only qualified personnel carry out all work.

NOTICE!

Property damage because of insufficient personnel qualification!

Danger of property damage when unqualified personnel carry out installation, operation and maintenance.

- ▶ Only qualified personnel carry out all work.

This installation and maintenance manual assigns activities to the following personnel:

- Installation personnel
- Operating personnel
- Maintenance personnel
- GF personnel

Only persons who meet the following requirements are authorized as personnel:

- They are qualified within the required field (e.g. welding, piping construction, loading). The customer is responsible that the qualifications are sufficient.
- They carry out all work according to currently applicable local standards and regulations.

2.7 Protective equipment

Persons remaining or working in the vicinity of hazardous and operating areas are required to wear general or special personal protective equipment.

WARNING!

Injury due to personal protective equipment not being worn!

Unprotected body parts may be injured.

- ▶ Wear the mandatory personal protective equipment.

During installation, operation and maintenance procedures, the following personal protective equipment must be used:



Protective gloves when required by the conditions



Steel toe-cap safety shoes with non-slip soles



Workwear and high-visibility warning clothing



Protective goggles or a face shield when required by the conditions



Safety helmet at constructions sites and in the water compartment



Safety belt in the water compartment

Other personal protective equipment (e.g. respiratory protection) must always be selected according to the task being performed.

2.8 Safety equipment

Safety equipment can be installed in the product. Contact your local GF representative to customize your product accordingly.

Examples of safety equipment are:

- Emergency stop switches
- Level sensors
- Limit switches

2.9 Safety and responsibility

- ▶ Only use the product as intended (see page 8).
- ▶ Do not use a damaged or defective product or component.
- ▶ Immediately report any damages or defects to GF Industry and Infrastructure Flow Solutions.
- ▶ Make sure that the piping system has been installed or repaired professionally and that it is inspected regularly.

2.10 General safety information

Observe the installation and maintenance manual

- This installation and maintenance manual is part of the product and an important element within the safety concept.
- Only qualified personnel, who have the required training, knowledge or experience, are allowed to commission, install, operate, maintain, and disassemble the product.
- ▶ Read and observe the installation and maintenance manual.
- ▶ Provide the installation and maintenance manual to all current and subsequent users of the product.
- ▶ Regularly instruct personnel on all questions regarding the local regulations applying to occupational safety and environmental protection, especially for pressurized pipes.

WARNING!

Injury due to damaged products!

Risk of injury due to the use of defective or damaged products.

- ▶ Do not use a damaged or defective product.
- ▶ Replace any damaged or defective products immediately.

WARNING!

Injury due to hazardous media!

Risk of injury because of hazardous chemicals or solvents.

- ▶ Wear the mandatory personal protective equipment.

CAUTION!

Injury due to product modifications!

Risk of injury due to product modifications or incompatible spare parts.

- ▶ Do not modify the product or its internal and external components.
- ▶ Only use original spare parts from GF Industry and Infrastructure Flow Solutions or approved third-party components.

CAUTION!

Risk of electric shock!

Internal components may carry hazardous voltages that can cause serious injury or death if touched.

- ▶ Before working on wiring or terminals, always ensure the power supply is completely disconnected (zero potential).
- ▶ Only qualified personnel trained in electrical safety and authorized to work on industrial instrumentation perform installation, handling, and servicing.

NOTICE!

Property damage due to product modifications!

Risk of property damage due to product modifications or incompatible spare parts.

- ▶ Do not modify the product or its internal and external components.
- ▶ Only use original spare parts from GF Industry and Infrastructure Flow Solutions or approved third-party components.

NOTICE!

Property damage due to damaged products!

Risk of property damage due to the use of defective or damaged products.

- ▶ Do not modify the product or its internal and external components.
- ▶ Only use original spare parts from GF Industry and Infrastructure Flow Solutions or approved third-party components.

2.11 Residual risks

In spite of structural and control-related measures, there may be residual risks even if the product is used as intended. The following section identifies residual risks that have been determined by GF Industry and Infrastructure Flow Solutions. To minimize residual risks, observe the following points:

- General legal and company safety regulations
- Recognized technical rules for safe and proper practices
- All safety instructions contained in this installation and maintenance manual
- All safety instructions contained in the bought-in part documentation
- All accident prevention regulations currently in effect in the country of installation

WARNING!

Danger of drowning!

High water pressure can pose a risk of personal injury.

- ▶ Close all closing valves when working inside the product.
- ▶ Wear a safety belt when working inside the product.

WARNING!

Danger of suffocation!

Lack of oxygen inside the product can pose a risk of personal injury.

- ▶ Ensure sufficient air ventilation when working inside the product.
- ▶ Install or wear oxygen monitoring sensors.
- ▶ Do not work alone inside the product.

CAUTION!

Danger of falling over!

The inside of the product can still be slippery because of residual water, even if the product was drained or due to a biofilm or grease from equipment after maintenance.

- ▶ Wear safety shoes with non-slip soles.
- ▶ Do not step into residual puddles.

2.12 Product-specific warnings

WARNING!

Injury due to incompatible materials!

Incompatible materials can be attacked by aggressive media, which can cause injuries.

- ▶ Confirm chemical compatibility before use.

WARNING!

Injury due to high pressures!

Excessive pressure can pose a risk of injury.

- ▶ Do not exceed maximum temperature/pressure specifications.

NOTICE!

Property damage due to incompatible materials!

Incompatible materials can be attacked by aggressive media, which can cause property damage.

- ▶ Confirm chemical compatibility before use.

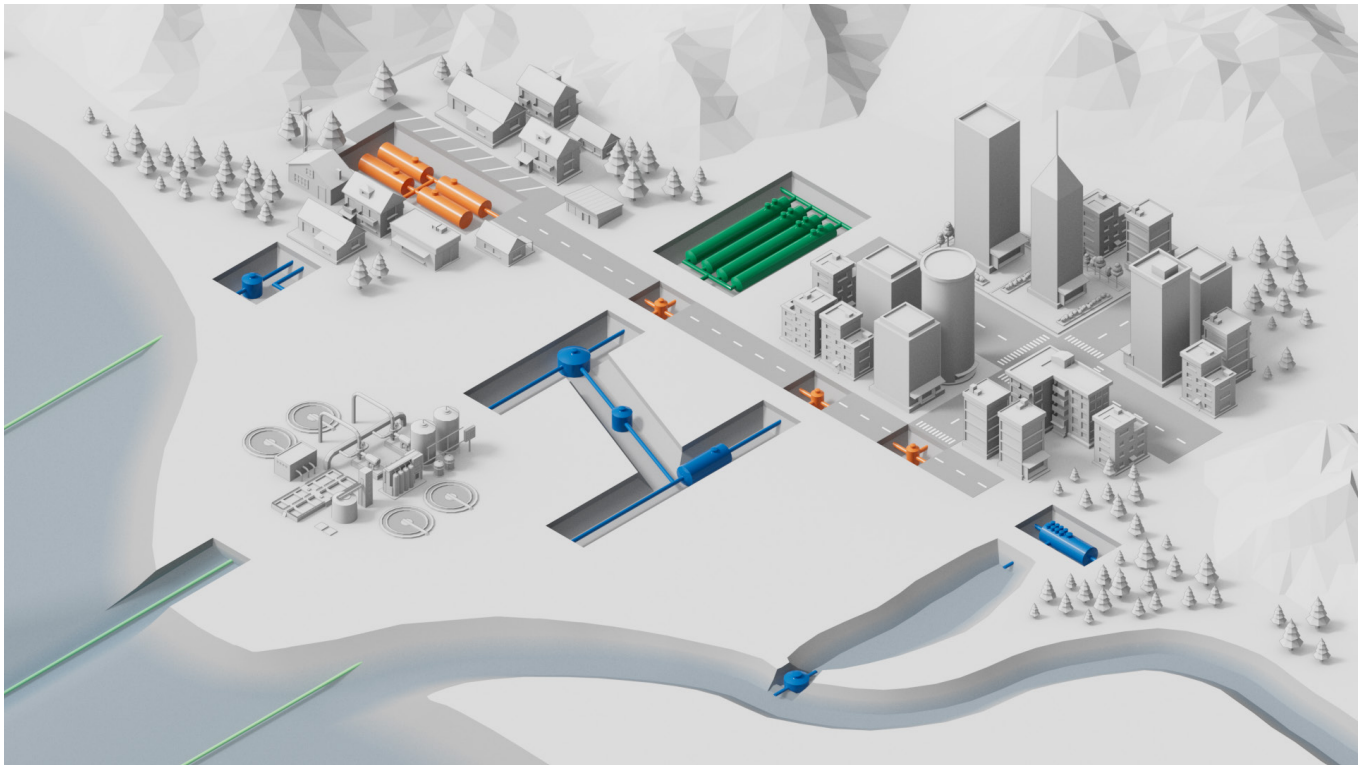
NOTICE!

Property damage due to high pressures!

Excessive pressure can pose a risk of property damage.

- ▶ Do not exceed maximum temperature/pressure specifications.

3 Product description



Color	Designation	Color	Designation
Orange	Retention	Dark green	Harvesting
Blue	Treatment	Light green	Marine outfall

3.1 Functional description

Increased rainfalls and heavier storms have created a higher risk of city floodings. Uncontrolled runoffs can inundate our neighborhoods, create environmental and economical damages and contaminate precious water resources.

GF Stormwise is a complete stormwater management solution that helps urban planners and water network professionals designing sustainable projects to prevent flooding and pollution of water sources.

GF Stormwise provides a wide range of innovative products for stormwater handling and treatment including water reservoirs, flow regulation units, and water purification chambers.

GF Stormwise comprises the following functional entities:

Retention

Retention solutions help storing and delaying stormwater in reservoirs near the source, before forwarding the water into the municipal network, preventing capacity overload. Flow regulation managed safely keeps the size of the retention at an optimal and cost-efficient volume. Sustainability: efficient protection against floods that cause environmental and economic damage. The Stormwise retention tank is described in a separate installation and maintenance manual. The technical chambers for flow regulation are described in this installation and maintenance manual.

Treatment

Pollution from traffic, buildings, material and other operations are accumulated on the ground in dry periods. In a thunderstorm, pollutants are washed off the ground and follow the stormwater system into the water bodies. Treatment solutions purify stormwater by removing a wide range of contaminants: waste, particles, oil, microplastics, etc. Sustainability: reducing pollutant concentrations and improving the status of water bodies. The solutions for treatment are described in a separate installation and maintenance manual.

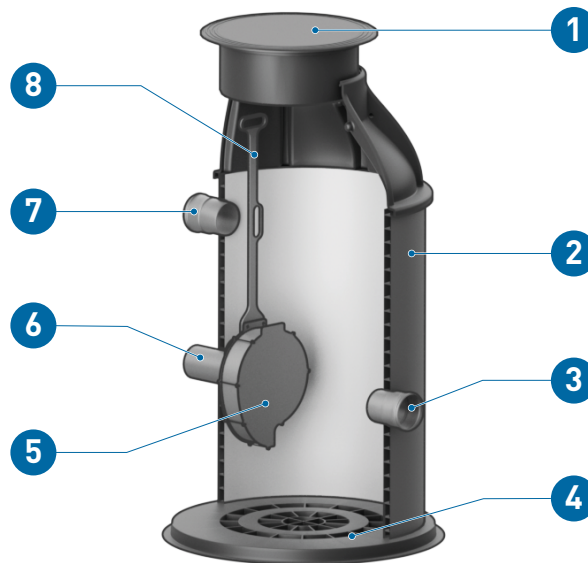
Harvesting

Harvesting is collecting and reusing stormwater for irrigation, flushing toilets or other usage where drinking water is not needed. Sustainability: using stormwater contributes positively to the reuse of resources for the local benefit. The Stormwise harvesting tank is described in a separate installation and maintenance manual.

Marine outfall

Marine outfall pipes efficiently discharge collected and purified stormwater from large paved areas such as city centers and commercial areas into nearby waterbodies. Sustainability: secures safe runoff and protects the constructed environment from floodings. The solutions for marine outfall are described in a separate manual.

3.1.1 Stormwise Flow Regulation Chamber



Pos.	Designation	Pos.	Designation
1	Technical chamber top	5	Flow regulator
2	Technical chamber body	6	Outlet
3	Inlet	7	Overflow
4	Self-anchoring base plate	8	Service handle

The GF Stormwise flow regulation chamber is used to keep the outgoing flow from a retention tank or pond on an even (pre-defined) value, independent from the water level in the tank or pond. The maximum outgoing flow rate is determined by the height of the water level inside the technical chamber. The water level inside the technical chamber is determined by the position of the overflow at the technical chamber body.

Water flows into the technical chamber body through the inlet. The flow regulator then creates a vortex through its shape affecting the flow as the circulating water works as a push-back force. Water then flows out through the outlet at the desired flow rate. Overflowing water is discharged through the overflow. The service handle enables maintenance work (see page 39).

Customizable components:

- Technical chamber size
- Inlet and outlet dimensions
- Riser height
- Technical chamber top type and size

The following table shows a selection of possible technical chamber tops. Customization is possible.

Technical chamber top types and sizes				
Type A	Type B	Type C	Type D	Type E
ø860/800 With safety gate	600x600 metal 800x800 metal	ø600 GE 40tn ø630 GE 40tn	ø630 GE 40tn ø800 GE 40tn	ø600 no lid ø800 no lid ø1000 no lid
				

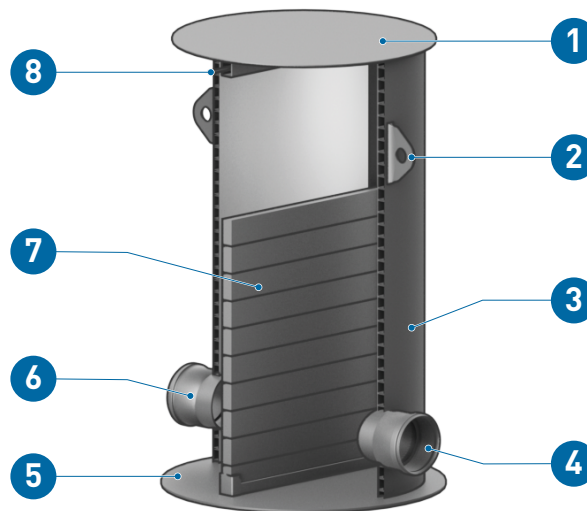
Optional components:

- Overflow outlet

Key Characteristics:

- Keeps outgoing flow from a pond or retention tank at an even level
- Designed for maximum flow and minimal maintenance
- Allows for the control of water flows from 1 l/s to 1000 l/s
- Technical chamber diameters from 800 mm to 1200 mm
- Connection dimensions from 100 to 300 mm
- Made of Weholite material

3.1.2 Stormwise Level Regulation Chamber



Pos.	Designation	Pos.	Designation
1	Lid	5	Self-anchoring base plate
2	Lifting yoke	6	Inlet
3	Technical chamber body	7	Levelling barrier (wooden planks)
4	Outlet	8	Locking rod

The GF Stormwise level regulation chamber is used to keep the water level in ditches, ponds, and wetlands at a desired height. The level regulation chamber can also be complemented with flow regulation properties. The water is drawn from the bottom of the pond, providing three advantages. First, floating debris on the surface of the pond does not enter the chamber. Second, the oxygen level in the pond remains optimal because the low-oxygen water from the bottom of the pond is extracted. Third, the pond can be completely emptied for maintenance (see page 39). The level of the uppermost wooden plank of the levelling barrier defines the desired maximum water level in the water body.

The desired maximum water level is adjusted by removing or adding wooden planks to the levelling barrier.

Water flows from the water body through the inlet into the technical chamber body. If the water level is higher than the highest wooden plank, exceeding the desired maximum water level, the water is discharged through the outlet and the water level of the water body decreases.

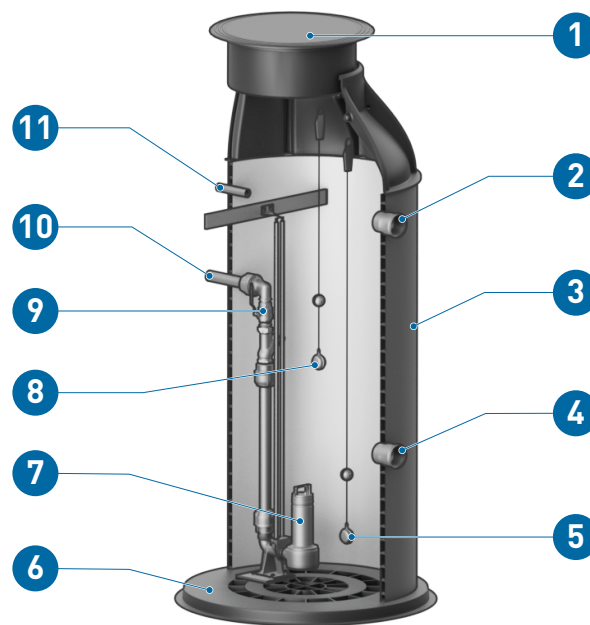
Customizable components:

- Technical chamber height and inner diameter
- Connection types and dimensions
- Height of levelling barrier (number of wooden planks)

Key characteristics:

- Keeps water level in ditches, ponds and wetlands at desired height
- Models available for installation in embankments and basin edges
- Tight, secure and has a long service life
- Allows for the control of water flows from 1 l/s to 1000 l/s
- Made of Weholite material

3.1.3 Stormwise Pump Chamber



Pos.	Designation	Pos.	Designation
1	Technical chamber top	7	Pump
2	Overflow	8	Overflow switch
3	Technical chamber body	9	Valve
4	Inlet	10	Outlet
5	Start/stop level switch	11	Electrical cable passing
6	Self-anchoring base plate		

The GF Stormwise pump chamber is used to pump stormwater from a reservoir such as a pipeline, a storage tank or a pond and lift the water to a higher level, if this is not possible by using gravity.

The technical chamber contains a pump that is activated by a float or a pressure switch when water flows into the technical chamber body through the inlet. When the water level in the storage tank reaches a certain limit, the pump switches on automatically and pumps the stormwater from the storage tank to the desired recipient through the outlet of the technical chamber.

Customizable components:

- Technical chamber size
- Storage volume
- Connection dimensions
- Internal or external control unit
- Riser height
- Technical chamber top types and sizes

The following table shows a selection of possible technical chamber tops. Customization is possible.

Technical chamber top types and sizes				
Type A	Type B	Type C	Type D	Type E
ø860/800	600x600 metal	ø600 GE 40tn	ø630 GE 40tn	ø600 no lid
With safety gate	800x800 metal	ø630 GE 40tn	ø800 GE 40tn	ø800 no lid
				ø1000 no lid
				

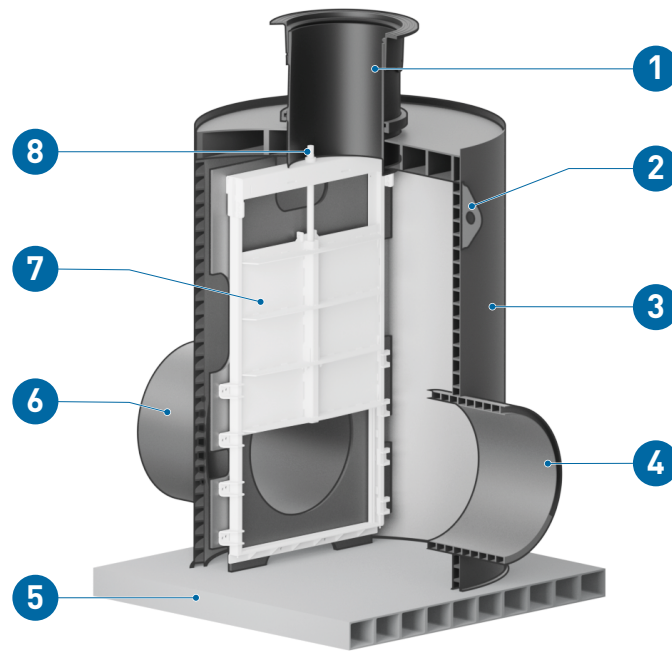
Optional components:

- Ventilation DN110

Key characteristics:

- Pumps water to a higher level
- Flexibility in terms of buoyancy assurance and adapting the pump chamber as needed
- Long lifetime
- Tailored to specific requirements
- Made of Weholite material

3.1.4 Stormwise Sluice Gate Chamber



Pos.	Designation	Pos.	Designation
1	Technical chamber top	5	Self-anchoring base plate
2	Lifting yoke	6	Inlet
3	Technical chamber body	7	Sluice gate
4	Outlet	8	Sluice gate rod

The GF Stormwise sluice gate chamber is a technical chamber for the regulation of water levels in rivers, lakes and canals by opening or closing an outlet. The sluice gate chamber acts as a control mechanism that allows water levels to be adjusted by letting water flow in or out of the water body. A sluice gate chamber is typically used in areas where there is a need to maintain constant or predetermined water levels to prevent flooding or water shortage.

Water flows into the technical chamber body through the inlet. The water flow is stopped when the sluice gate is closed and the water level in the water body increases. The water flow continues when the sluice gate is opened and the water level in the water body decreases.

The sluice gate chamber can be optionally motorized and controlled from distance or autonomously by alarm or other triggers. For example, a fire alarm can trigger the closing of the chamber ensuring that contaminated fire extinguishing water does not escape the site.

Customizable components:

- Technical chamber size
- Connection dimensions
- Riser height
- Technical chamber top types and sizes

The following table shows a selection of possible technical chamber tops. Customization is possible.

Technical chamber top types and sizes				
Type A	Type B	Type C	Type D	Type E
ø860/800 With safety gate	600x600 metal 800x800 metal	ø600 GE 40tn ø630 GE 40tn	ø630 GE 40tn ø800 GE 40tn	ø600 no lid ø800 no lid ø1000 no lid
				

Optional components:

- Motorized opening/closing

Key characteristics:

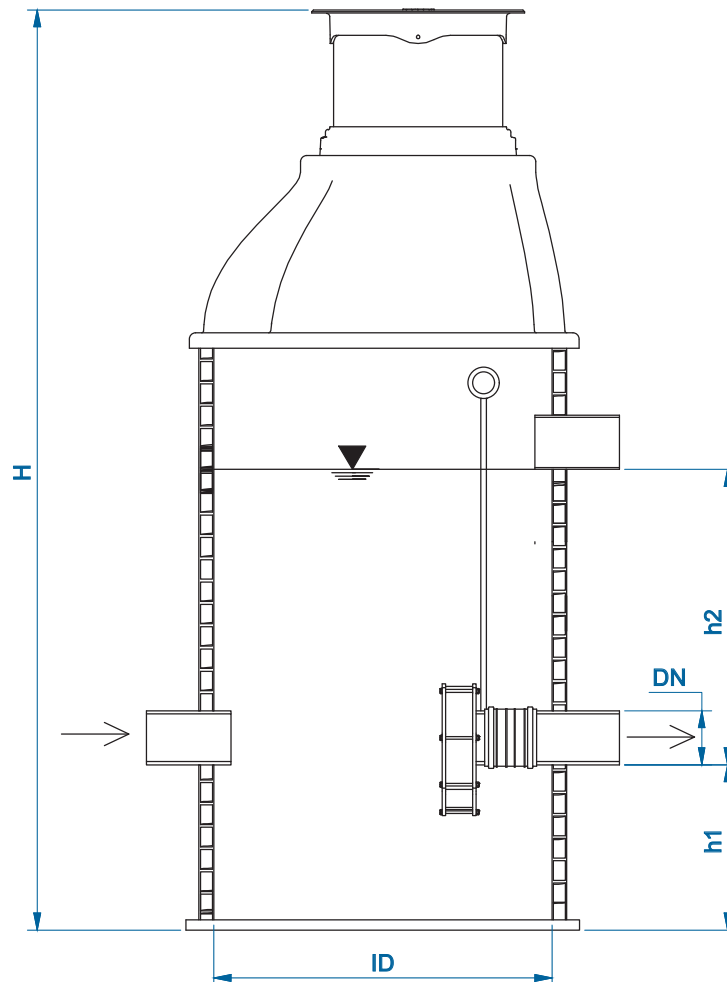
- Regulates water levels in rivers, lakes, canals
- Manual or motorized operation
- Made of Weholite material

3.2 Technical data

The following technical data applies to all technical chambers.

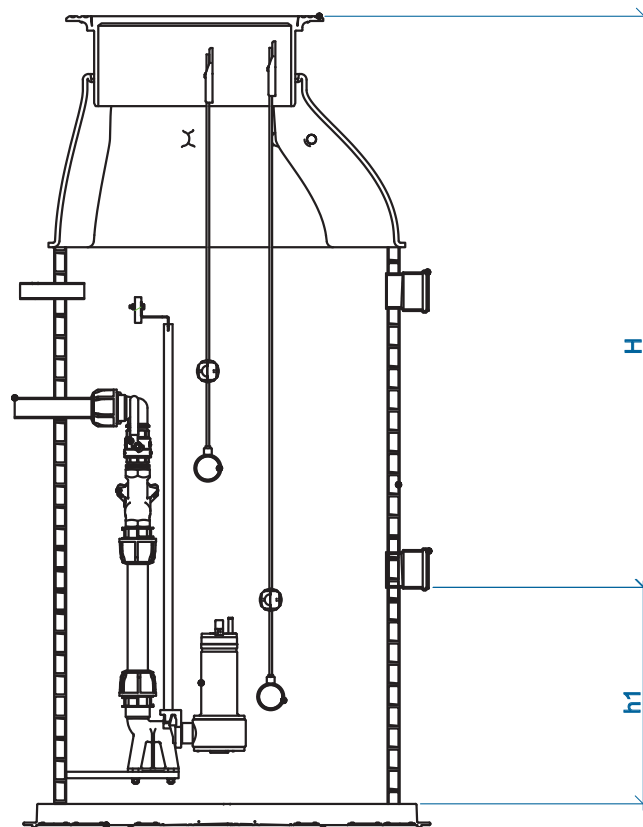
Technical data	
Material technical chamber body	PE 100
Color	Black (outside), white (inside)
Technical chamber top types (not for level regulation chamber)	Type A: Ø 860/800, with safety gate Type B: 600x600/800x800, metal Type C: Ø600/630, GE 40tn Type D: Ø630/800, GE 40tn Type E: Ø600/800/1000, no lid
Anchoring	Self-anchoring base plate
Ring stiffness	SN2, SN4, SN8, or by agreement

3.2.1 Stormwise Flow Regulation Chamber



Technical data	
Application	Flow regulation of stormwater
Overall technical chamber height H	Customizable
Inner diameter ID	800, 1000, 1200 mm
Connection diameter DN	100, 125, 150, 200, 250, 300 mm
Outlet position h1	Customizable
Overflow position h2	Customizable

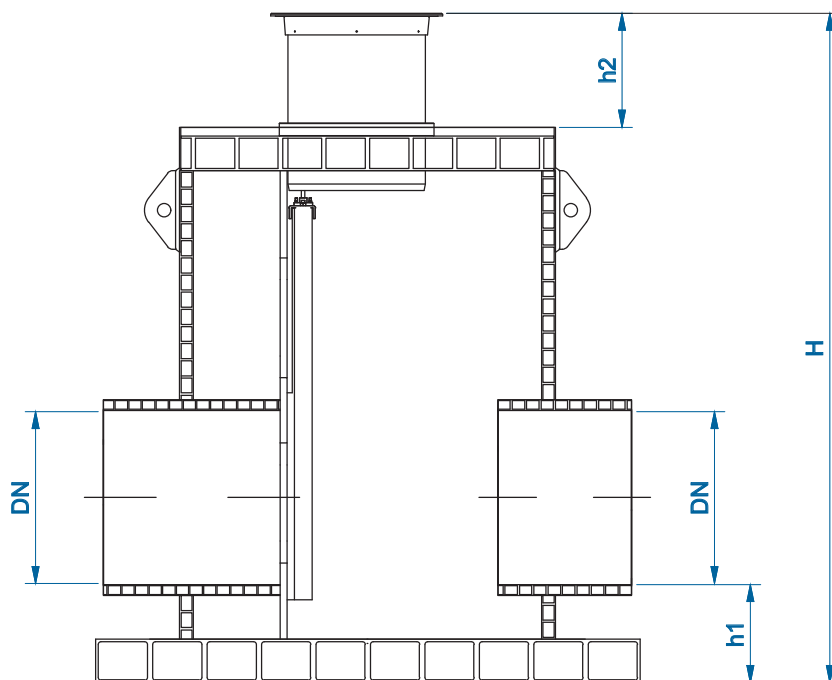
3.2.3 Stormwise Pump Chamber



Technical data

Application	Pumping of stormwater
Inner diameter	800, 1000, 1200, 1250, 1400, 1600, 1800, 2000, 2400, 3000, 3400, 3500 mm
Inlet connection diameter	Customizable
Height H	Customizable
Storage volume h1	Customizable
Start/stop level switch	MAC 3
Overflow switch	MAC 5
Electrical cable passing	DN50
Control unit	Internal or external
Pump flow and head	Customizable

3.2.4 Stormwise Sluice Gate Chamber



Technical data

Application	Water level control
Inner diameter	800 - 2400 mm
Connection diameter	300 - 1400 mm
Control	Manual or motorized

Dimensions

Connection diameter DN [mm]	Inner diameter ID [mm]	Height H [mm]	Connection height h1 [mm]	Technical chamber top height h2 [mm]
300	≥ 800	≥ 1150	≥ 250	≥ 500
400	≥ 1000	≥ 1350	≥ 250	≥ 500
500	≥ 1200	≥ 1550	≥ 300	≥ 500
600	≥ 1400	≥ 1750	≥ 400	≥ 500
800	≥ 1600	≥ 2350	≥ 400	≥ 500
1000	≥ 2000	≥ 2900	≥ 400	≥ 500
1200	≥ 2000	≥ 3450	≥ 400	≥ 500
1400	≥ 2400	≥ 4200	≥ 400	≥ 500

4 Transport and storage

4.1 Safety instructions

- ▶ Only properly trained personnel carry out all loading and unloading work.
- ▶ Ensure that the personnel performing the work wear appropriate personal protective equipment.
- ▶ Ensure that the personnel performing the work are trained in health and safety.

NOTICE!

Risk of property damage!

Non-observance of guidelines can cause property damage.

- ▶ Observe the guidelines below for loading and unloading, transporting and storage.

The technical chamber must be handled, transported and stored with care. Note the following points:

- ▶ Ensure that the technical chamber and its components are not damaged either by mechanical or thermal influences.
- ▶ Ensure that the machinery and equipment used for handling the technical chamber are technically flawless and adapted to the type of cargo.
- ▶ Transport and store the technical chamber in its original packing.
- ▶ Protect the technical chamber from harmful physical influences.
- ▶ Avoid contact of the technical chamber with chemicals, gasoline, or diesel fuel.
- ▶ Avoid handling and transporting of the technical chamber at air temperatures below -20° C.

4.2 Loading and unloading

DANGER!

Risk of injury due to suspended loads!

Falling suspended loads can cause serious or fatal injuries.

- ▶ Never stand or walk under suspended loads.

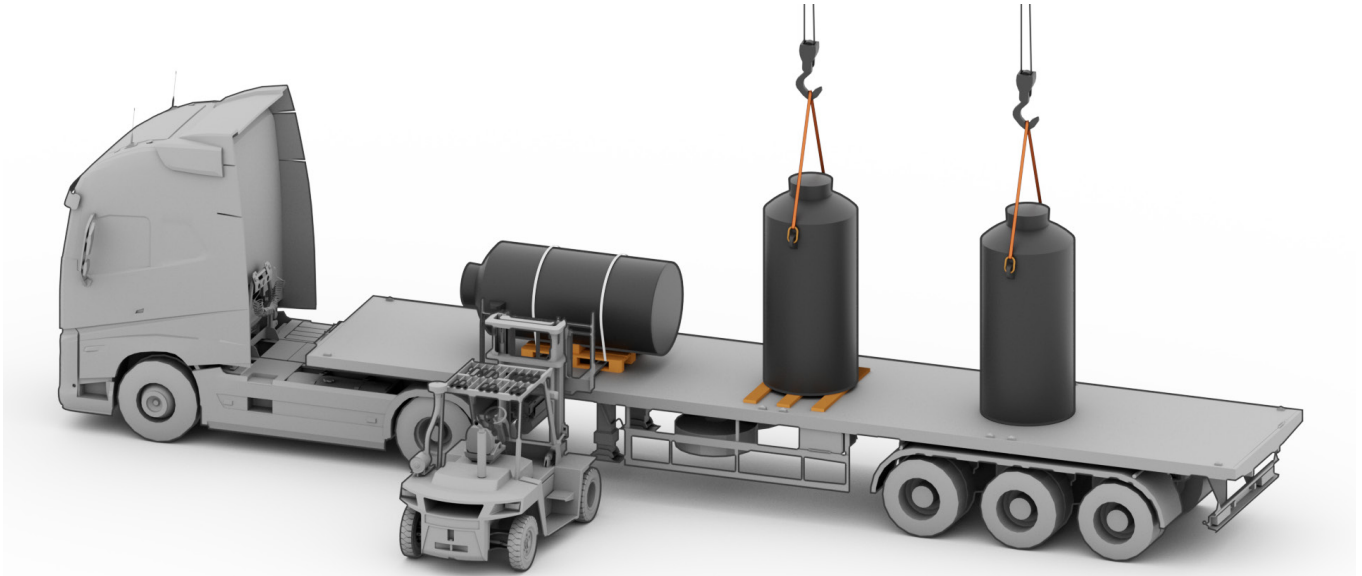
NOTICE!

Risk of property damage while lifting!

Wrong handling of the technical chamber during loading and unloading can cause property damage.

- ▶ Make sure that the lifting belts do not damage any protruding parts.
- ▶ Ensure availability of unloading equipment on the construction site.
- ▶ Before unloading, ensure that the technical chamber is undamaged. Record any claims or complaints directly with the driver on the delivery documents
- ▶ For loading and unloading, only use approved, checked and intact gear and equipment.
- ▶ Always lift the technical chamber with a crane or a suitable forklift.
- ▶ Always use the lifting yokes and lifting belts when lifting the technical chamber on the sides of the technical chamber.
- ▶ Protect the lifting straps with corner guards at the lug positions.
- ▶ If necessary, use a spreader bar.
- ▶ Only use lifting belts and hanging loops made of soft materials, e.g. nylon.
- ▶ Do not use cables, wires or chains that might scratch or harm the surface of the technical chamber.
- ▶ Ensure that the lifting gear can handle the weight of the load.
- ▶ Ensure that the lifting belts do not damage any protruding parts.
- ▶ Do not bend or slide the technical chamber.
- ▶ Avoid sudden stress. This applies in particular at ambient temperatures below -20 °C, as the impact strength of plastics is significantly reduced at these temperatures.
- ▶ Check the weight of the technical chamber and balance points before adjusting lifting gear and lifting. If the balance point is not marked on the technical chamber body, it is in the middle of the technical chamber (width and height wise).
- ▶ Perform a test lift to a height about half a meter above ground before the actual lift. If needed, adjust the lifting according to the balance points.

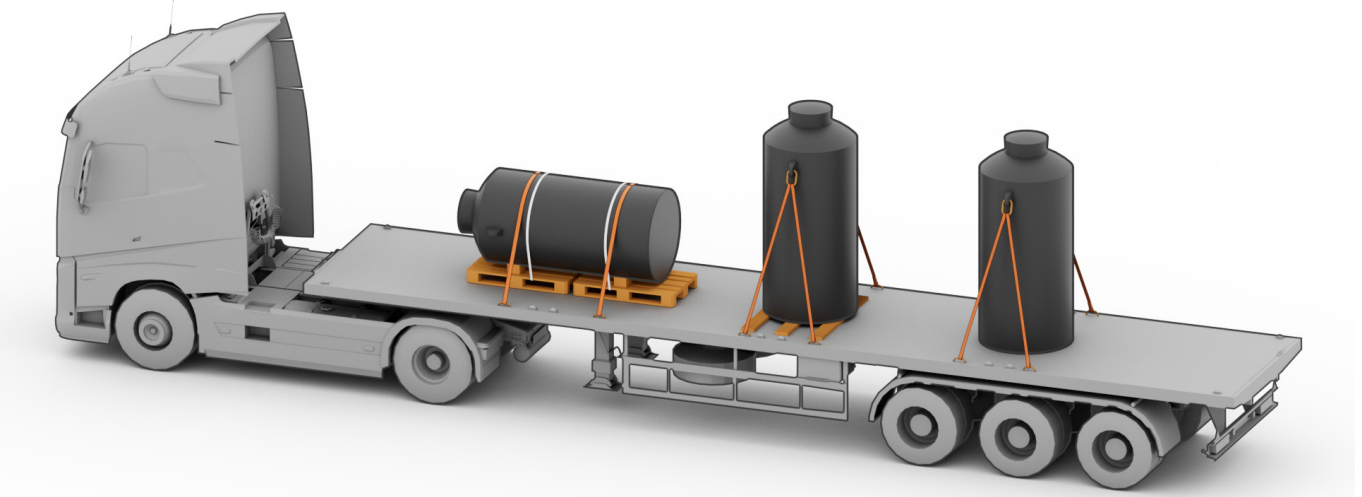
Examples of appropriate technical chamber loading and unloading:



4.3 Transporting

- ▶ Ensure access to the construction site for the logistics company.
- ▶ Ensure proper preparation of the access route to accommodate trucks. Take into account the trucks' size and weight.
- ▶ Use a transportation platform, which is clean, flat and without any pointy or sharp objects.
- ▶ Do not slide the technical chamber.
- ▶ Place the technical chamber on the platform so that any protruding elements are protected from damage.
- ▶ If needed, support the technical chamber along its entire length with wooden wedges or pallets to prevent any bending or movement.
- ▶ Use wide cargo straps to secure the load.
- ▶ Do not use cables, wires or chains to secure the load.
- ▶ Avoid contact of belt buckles and the technical chamber, e.g. by using rubber pads.
- ▶ Cover all openings to prevent dirt from entering the technical chamber.

Examples of appropriate technical chamber transport:



4.4 Storing

- ▶ Choose a clean and even storage site.
- ▶ Ensure that there are no sharp objects like nails or stones on the storage site.
- ▶ If needed, store the technical chamber on wooden racks or palettes.
- ▶ Store the technical chamber in its original packing.
- ▶ Do not stack technical chambers.
- ▶ Carefully inspect the technical chamber at the time of delivery and notify and report any defects immediately.

Example of appropriate technical chamber storage:



5 Installation

5.1 Safety instructions

DANGER!

Injury due to manipulations on pressurized pipes!

Improper manipulations on a pressurized pipe can lead to the medium escaping under pressure, resulting in injuries.

- ▶ Always consult the installation and maintenance manual before making any manipulations to pipes.
- ▶ Under all circumstances, make modifications to pressurized pipes only according to the instructions in this installation and maintenance manual.

DANGER!

Injury due to damaged cabling!

Touching damaged cables may lead to electrical shocks or death.

- ▶ Operate the technical chamber only if the cables are undamaged and it has been installed correctly.

WARNING!

Injury because of insufficient personnel qualification!

Danger of injury when unqualified personnel carry out installation, operation and maintenance.

- ▶ Only qualified personnel carry out all work.

NOTICE!

Property damage due to manipulations on pressurized pipes!

Improper manipulations on a pressurized pipe can lead to the medium escaping under pressure, resulting in property damage.

- ▶ Always consult the installation and maintenance manual before making any manipulations to pipes.
- ▶ Under all circumstances, make modifications to pressurized pipes only according to the instructions in this installation and maintenance manual.

NOTICE!

Property damage due to leaking water connections!

Escaping water can lead to flooding of the room and property damage to the building and fittings.

- ▶ Check that there are no leaks.

NOTICE!

Property damage due to incorrect service voltage!

If connected to an incorrect service voltage, the technical chamber can be damaged.

- ▶ Only connect to voltage sources as specified on the technical chamber label.

NOTICE!

Buoyancy due to ground water!

If the technical chamber is installed in an area of high ground water, the technical chamber could be lifted by the groundwater.

- ▶ Use the GF anchoring kit or geotextile fabric to counteract the lifting force.

NOTICE!

Property damage because of insufficient personnel qualification!

Danger of property damage when unqualified personnel carry out installation, operation and maintenance.

- ▶ Only qualified personnel carry out all work.

5.2 Before installation

The customer is responsible for handling the technical chamber and other equipment and installing at the site.

The technical chamber must be installed with care. Note the following points:

- ▶ Strictly follow the requirements from the static calculation. A detailed static calculation can be provided on request.
- ▶ Ensure that any work on-site, including excavation and backfilling, is done in compliance with the respective local regulations. The relevant installation details are defined in DIN EN 1610 and the associated standards and guidelines referenced therein.
- ▶ Check the technical chamber for general damage or flaws prior to installation.
- ▶ Avoid installation of the technical chamber at air temperatures below -20°C .
- ▶ Handle Weholite products as described in currently applicable standards and regulations.

5.2.1 Prerequisites

- The GF Stormwise technical chamber is engineered according to the project-specific customer requirements and is intended for earth-buried applications. The technical chamber is designed to meet static requirements, considering parameters such as installation depth, coverage, traffic loads, groundwater level, hydraulic loads, and more.
- ▶ Arrange a suitable installation location for the technical chamber in cooperation with local authorities.
- ▶ Arrange and prepare a suitable storage site so that the technical chamber can be placed on an even surface over its whole length.
- ▶ Ensure easy access for transport equipment to the storage and installation site.
- ▶ Arrange suitable and adequate lifting gear on site.
- ▶ Arrange relevant electrical and other connective work (welding etc.).
- ▶ Arrange excavation and fill on site with suitable materials and by suitable methods.
- ▶ When receiving the technical chamber, handle carefully to avoid damage by lifting or other equipment.

5.2.2 Required tools and materials

For the correct installation, the following equipment is required apart from standard tools:

- Proper lifting equipment
- Proper excavation equipment
- Proper tooling for the selected pipe joining method
- Compacting equipment according to local standards and regulations

5.3 Installation procedure

5.3.1 Digging the Technical Chamber pit

- ▶ Ensure that the excavation is wide enough to allow sufficient working space around the technical chamber. Select the specific space around the technical chamber based on installation depth and soil conditions to ensure safe working conditions. Ensure that there is enough space around the technical chamber installed in the pit to compact the backfill material.
- ▶ In case of anchoring, take also into account the dimensions of the anchoring equipment.
- ▶ If the soil consists of poorly draining material, such as clay, it is recommended to install drainage in the excavation.
- ▶ Ensure that the bottom and walls of the pit are free of stones, bricks, debris, and other objects that may cause mechanical damage to the technical chamber.
- ▶ Ensure that the bottom of the pit is completely solid and even, as gaps may form in soft areas and unevenness under the technical chamber when the pit is filled.
- ▶ In road areas or areas immediately adjacent to road areas, ensure that the pit is designed and constructed to avoid undermining and settlement.
- ▶ Dig the pit to the correct depth taking traffic load conditions into consideration. Minimum top fill is 30 cm in green areas. See chapter 5.3.11 for the minimum top fill in traffic areas.

5.3.2 Preparing the bottom layer

- ▶ Ensure that the excavation base provides at least the same load-bearing capacity as the undisturbed native soil.
 - ▶ If the base has been loosened during excavation, ensure that its original bearing capacity is restored using appropriate compaction equipment.
 - ▶ Keep the pit bottom free of water during compaction.
 - The technical chamber is placed on a bottom layer that eliminates unevenness and ensures that the technical chamber receives uniform and even support. The thickness of the bottom layer depends on the type of technical chamber and the connection pipes. The connection pipes must be able to be dug into the bottom layer so that the technical chamber receives linear support.
1. Prepare the bottom of the pit according to EN 1610. In addition to the minimum thickness, the standard also defines requirements for the bedding materials to be used.
 2. Make sure that the floor is level.

5.3.3 Ground water

The technical chamber body is self-anchoring, so there's usually no need for extra precautions against ground water's buoyancy forces.

- ▶ If the ground on site is poorly permeable by water (for example clay), take installing draining into the pit into consideration.
- ▶ Ensure that the eventual height difference between ground level and maintenance lids is at least 200 mm. The technical chamber height is the distance between the outlet flow line and the ground level.
- ▶ If the technical chamber is placed in an area where high ground water level is present, prepare bottom of excavation according to possible anchoring arrangements.

5.3.4 Lifting and positioning the Technical Chamber

DANGER!

Risk of injury due to suspended loads!

Falling suspended loads can cause serious or fatal injuries.

- ▶ Never stand or walk under suspended loads.

NOTICE!

Property damage because of objects in the pit!

Stones, bricks, debris, and other objects can damage the bottom and walls of the technical chamber.

- ▶ Ensure that the bottom and walls of the pit are free of stones, bricks, debris, and other objects.
 - ▶ Carry out technical chamber lifting by using lifting belts attached onto the lifting yokes on the technical chamber, following the instructions for loading and unloading (see page 24).
 - ▶ Prevent the stressing of (welded) connections and other structural parts.
1. Place the technical chamber on the bottom layer.
 2. Level the technical chamber. The basis for the proper functioning of the technical chamber is its proper leveling.
 3. Make sure that the connections are at the correct height.
 4. Remove any temporary supports used during transport after the technical chamber is in its required position and adequately supported.

5.3.5 Anti-buoyancy in groundwater conditions

- Usually, a technical chamber is equipped with a self-anchoring bottom. In that case, no further anchoring is necessary (see image):



- ▶ If the technical chamber is not equipped with a self-anchoring plate, use the GF anchoring kit (see image):



- ▶ Wrap the anchoring straps around the lifting yokes.
- ▶ Choose the number of anchoring plates according to technical chamber size/buoyancy.
- ▶ Choose the size of the concrete slab so that it overrides the buoyancy and has enough space for fixtures of a proper number of straps.

As a standard solution, the steel reinforced concrete slab dimensions are calculated like the following: thickness 150 mm x technical chamber width +200 mm X technical chamber length +200 mm. This still depends on the site conditions and a designer needs to check and approve or update the solution and slab dimensions.

5.3.6 Connecting the inlet and outlet pipes

WARNING!

Risk of electrical shock!

Ensure that there is no water in the pipeline when doing electric welding.

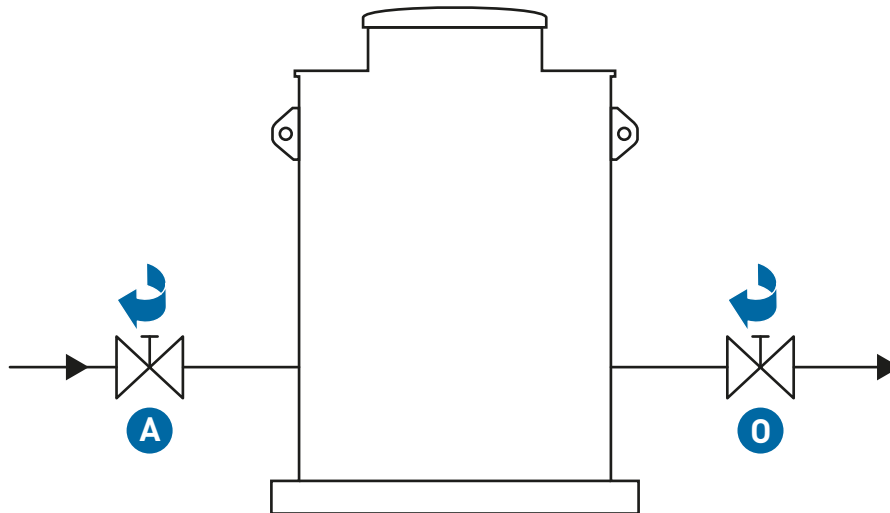
- ▶ Make mechanical connections according to GF installation guidelines and currently applicable standards and regulations.
- ▶ Only use approved materials and fittings.
- ▶ Do electric welding according to GF installation guidelines and currently applicable standards and regulations.
- ▶ Avoid applying excessive force or torque to the technical chamber body, pipe joints, or seals.
- ▶ Ensure proper installation to uphold system integrity and warranty coverage.
- ▶ Always follow local regulations and component manuals during installation.

NOTICE!

Risk of leakage or structural damage!

Incorrect connection or misalignment of the technical chamber may lead to leaks, mechanical stress, or system failure.

- ▶ Make sure that the inlet and outlet shut-off valves (A and O) are fully closed.



- ▶ Only qualified personnel carry out all work.
 - ▶ Ensure proper alignment of all inlet and outlet connections before the final installation.
 - ▶ Only use approved materials and fittings.
 - ▶ Avoid applying excessive force or torque to the technical chamber body, pipe joints, or seals.
 - ▶ Always follow local regulations during installation.
- Connection of inlet and outlet can be made by welding, flange connections, or with mechanical fittings.
 - ▶ Ensure that the installation follows the instructions from connector's manufacturer or complies with applicable local rules or standards such as DVS 2207.

The ground frost insulation and/or thermal insulation of pipes can be carried out if needed according to the respective plan and in compliance with currently applicable standards and regulations. The final landscaping is to be completed by the customer. The customer may consider preparing for exceptional circumstances, such as a power outage, with a spare power source and/or connection. Components and equipment must be monitored and inspected according to the suppliers' standards and recommendations.

5.3.7 Connecting electrical connections

WARNING!

Risk of electrical shock!

Failure to follow instructions may result in serious injury or electric shock.

- ▶ Follow the currently applicable standards and regulations for connecting electrical connections.
- ▶ Electrical enclosures must only be opened or operated by qualified personnel.
- ▶ Exceptions apply only to non-locked cabinets, which may be accessed as permitted by company safety regulations.
- ▶ Make mechanical connections (e.g. flange connections) according to GF installation guidelines and currently applicable standards and regulations and use approved materials and fittings.
- ▶ Monitor the condition of the electric devices before starting any installations.
- ▶ Ensure proper installation to uphold system integrity and warranty coverage.
- ▶ Always follow local regulations and component manuals during installation.
- ▶ Route cables exclusively through the designated cable passings.
- ▶ Ensure that the cable inlet is sealed properly and watertight.

5.3.8 Testing and inspecting

WARNING!

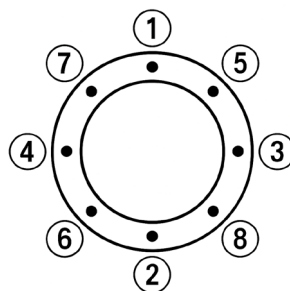
Risk of injury due to uncontrollable exit of the medium!

If leaking, the medium may exit uncontrollably.

- ▶ Assume a protected working position.
 - ▶ Wear protective clothing, if required.
- Leak testing can be done either with water or air.
 - It is recommended to log visual testing and inspecting.
 - ▶ Perform a leakage test and inspection according to currently applicable local standards and regulations.
 - ▶ Check whether all components inside the technical chamber work properly.

5.3.9 Installing the Technical Chamber top

- Depending on the technical chamber top type, installation varies.
- ▶ If a concrete plate and separate cover is used, ensure that the concrete plate distributes all load to surrounding ground.
- ▶ The technical chamber top solution and cover are selected based on the pipe diameter. All traffic loads are transferred through the technical chamber top cover and structure into the surrounding soil. This transfer ensures that no load is imposed on the technical chamber itself.
- ▶ If applicable, install a technical chamber top with a flange connection:
 1. Install the seal ring into the uppermost groove.
 2. Apply lubricant to the tip end of the technical chamber top pipe and install it internally in the well pipe.
 3. Fill up and pack to the desired level.
 4. Tighten the bolts. The recommended order of bolt tightening is as in the picture.



5. Perform the first tightening round using a torque that is approximately half of the final tightness.
6. Complete the after-tightening of the bolted connections before disinfecting the technical chamber.
7. Check the tightness of the flanges.
8. Tighten the bolts using a torque wrench.

5.3.10 Backfilling around the Technical Chamber

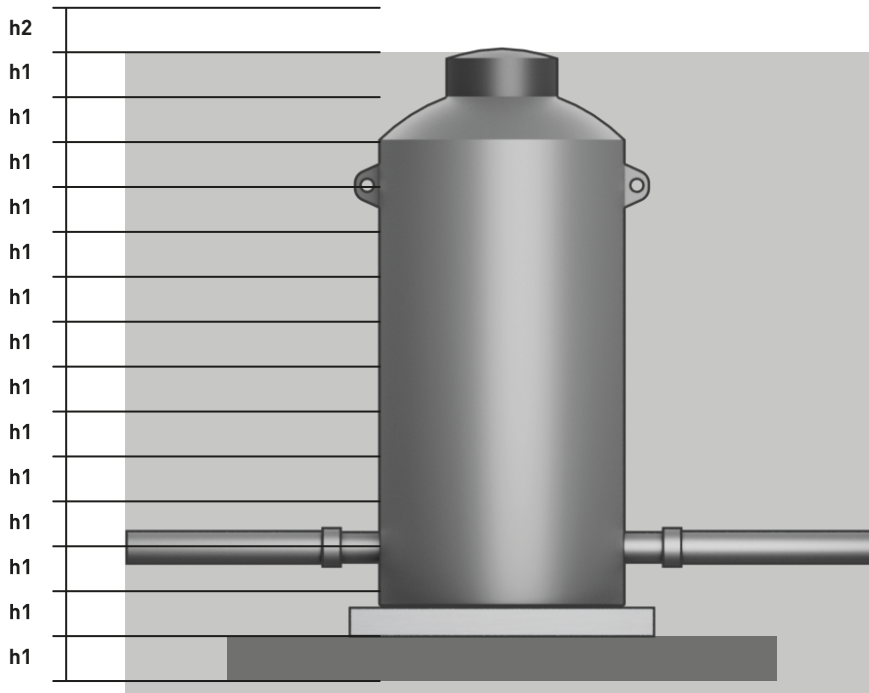
NOTICE!

Risk of material damage!

The use of heavy compaction equipment directly above the technical chamber may damage the technical chamber.

- ▶ Do not use mechanical compaction with vibrators directly above the technical chamber or pipes.
- ▶ Follow standard EN 1610 in all backfilling steps.

- ▶ Ensure that the bedding heights h_1 and h_2 follow the requirements in EN 1610 and other currently applicable local standards and regulations.



Pipe bedding

- ▶ Ensure that the bedding soil is free from stones within the width of the technical chamber pit.
- ▶ Prepare the pit bottom bedding layer according to EN 1610.
- ▶ Compact the bedding layer mechanically.
- ▶ For installation in soft or wet soil, place geotextile under the bedding to keep the bedding and native materials separate.

Primary backfill

- ▶ Ensure that the technical chamber is fully closed.
- ▶ Use backfill material according to EN 1610.
- ▶ Backfill over the whole pit width.
- ▶ Compact the backfill material according to EN 1610.
- ▶ Fill in the final layer of the primary backfill according to EN 1610.
- ▶ Spread the primary backfill material carefully from a low height.
- ▶ Take special care when compacting the haunch area.
- ▶ Ensure that the technical chamber does not move during haunch area compaction.
- ▶ Place the primary backfill in even layers on both sides of the technical chamber.
- ▶ Ensure that the soil material used is not frozen.
- ▶ Ensure the minimum backfill level according to EN 1610 before compacting directly above the technical chamber.

Final backfill

- ▶ Ensure that the final backfill material is free from stones.
- ▶ Ensure that the final backfill material is compactable as dug materials or better.
- ▶ Follow the requirements for non-traffic or traffic areas described in EN 1610.
- ▶ Carry out compaction in several layers.

5.3.11 Installation under a traffic area

The technical chamber can be installed in areas up to load class D400 (according to EN 124). The backfill layer above the technical chamber is used to distribute the loads by pedestrian and vehicle traffic. The minimum total thickness of the backfill layer above the technical chamber (dimension [A]) is displayed in the following table. The stiffness is determined according to ISO 9969.

Load class	Test load	Traffic group description	SN2 [A]	SN4 [A]	SN8 [A]
D	400 kN	Areas where cars and lorries have access, including carriageways, hard shoulders, and pedestrian areas.	-	1.0 m	0.8 m
B	125 kN	Car parks and pedestrian areas where only occasional vehicular access is likely.	-	0.8 m	0.6 m
A	15 kN	Only pedestrians have access.	0.3 m	0.3 m	0.3 m

Shallower installations can be carried out by using a concrete load-bearing construction.

- ▶ Follow local standards and regulations for the minimum cover depth.

NOTE!

If the site situation does not allow the minimum installation depth, and dimension [A] will be less than in the table, there is the possibility to prepare a steel reinforced concrete slab above the technical chamber. Landscaping designers must take all aspects of the site into account and define the structure and dimensions of load distribution slab.

5.3.12 Level Regulation Chamber installation

- ▶ Install the level regulation chamber by heaping up a soil embankment around the technical chamber body, not digging a pit. Rules for backfilling apply.
- ▶ Follow this ratio between the technical chamber height and the base of the soil embankment:

Technical chamber height (in meters)	Embankment base minimum (in meters)
1	5
2	10
3	15

- ▶ For the levelling barrier wooden planks, use 63 x 150 mm large planks made out of pine or fur.
- ▶ Put some nails in the wooden planks to facilitate lifting for operation (see page 37) and maintenance (see page 39).
- ▶ Ensure a 20-30 mm margin in length to allow some room for the wood to expand when in contact with water.
- ▶ Use some peat or other small fibers on the wet side of the wall to tighten the wooden planks in the levelling barrier.
- ▶ Check that the levelling barrier is tight enough for the intended use. Make corrections if necessary.

5.3.13 Pump Chamber installation

- ▶ Connect the pump to the power source (see page 32) according to the component manuals.
- ▶ Ensure that the pump starts and stops at the intended levels and that all connections are tight.

6 Operation

6.1 Safety instructions

WARNING!

Injury because of insufficient personnel qualification!

Danger of injury when unqualified personnel carry out installation, operation and maintenance.

- ▶ Only qualified personnel carry out all work.

WARNING!

Injury due to personal protective equipment not being worn!

Unprotected body parts may be injured.

- ▶ Wear the mandatory personal protective equipment.

WARNING!

Danger of drowning!

High water pressure can pose a risk of personal injury.

- ▶ Close all closing valves when working inside the technical chamber.
- ▶ Wear a safety belt when working inside the technical chamber.

WARNING!

Danger of suffocation!

Lack of oxygen inside the technical chamber can pose a risk of personal injury.

- ▶ Ensure sufficient air ventilation when working inside the technical chamber.
- ▶ Install or wear oxygen monitoring sensors.
- ▶ Do not work alone inside the technical chamber.

CAUTION!

Risk of electric shock!

Internal components may carry hazardous voltages that can cause serious injury or death if touched.

- ▶ Before working on wiring or terminals, always ensure the power supply is completely disconnected (zero potential).
- ▶ Installation, handling, and servicing must be performed only by qualified personnel trained in electrical safety and authorized to work on industrial instrumentation.

CAUTION!

Danger of falling over!

The inside of the technical chamber can still be slippery because of residual water, even if the technical chamber was drained or due to a biofilm or grease from equipment after maintenance.

- ▶ Wear safety shoes with non-slip soles.
- ▶ Do not step into residual puddles.

NOTICE!

Property damage because of insufficient personnel qualification!

Danger of property damage when unqualified personnel carry out installation, operation and maintenance.

- ▶ Only qualified personnel carry out all work.

6.2 Preparing for operation

- ▶ Ensure access to the technical chamber.
- ▶ Ensure that light and ventilation systems are working properly.
- ▶ Ensure that required blind flanges or blockings are installed properly.
- ▶ Familiarize yourself with the warning signs attached to the technical chamber.
- ▶ Ensure that the quality of the breathing air is monitored continuously or at regular intervals.
- ▶ Ensure that the personal protective equipment, footwear, workwear, and gloves meet water hygiene requirements.

6.3 General operation

- ▶ Consult the component manuals for component operation.

6.3.1 Level Regulation Chamber operation

- ▶ Adjust the water level by removing or adding wooden planks to the levelling barrier if needed.

6.3.2 Sluice Gate Chamber operation

- ▶ Open and close the sluice gate when needed to control the flow. Depending on the configuration, opening and closing the sluice gate can be done manually or motorized.

6.4 Cleaning

- ▶ Follow the component manuals on cleaning valves and measuring equipment.
- ▶ Remove sediments and sludge from the bottom of the technical chamber.
- ▶ Only use chemicals approved for use with Weholite products.

7 Maintenance

A highly efficient operation of the technical chamber is only possible when regular maintenance is performed. This means the need for periodic inspection and cleaning of the technical chamber. This frequency will depend mainly on the amount of pollutants in the stormwater. Supplementary recommendations and regulations may result from the building permit and operating permit.

7.1 Safety instructions

WARNING!

Injury because of insufficient personnel qualification!

Danger of injury when unqualified personnel carry out installation, operation and maintenance.

- ▶ Only qualified personnel carry out all work.

WARNING!

Danger of explosion!

Smoking or using open flames inside the technical chamber may lead to the explosion of inflammable substances.

- ▶ Do not smoke or use open flames inside the technical chamber.

CAUTION!

Risk of injury due to leaking gaskets!

Danger of injury by leaking medium due to damaged or aged gaskets.

- ▶ If possible, store gaskets in a cool, dry and dark place.
- ▶ Before installing them, check the gaskets on possible aging damages, such as fissures and hardenings.
- ▶ Regularly check the gaskets and replace them, where necessary.

NOTICE!

Property damage due to wrong cleaning agents!

The use of aggressive cleaning chemicals can cause damage to components.

- ▶ Do not use aggressive chemicals or cleaning agents when cleaning.
- ▶ If the technical chamber comes into contact with harsh chemicals, clean it thoroughly with a neutral detergent.

NOTICE!

Property damage because of insufficient personnel qualification!

Danger of property damage when unqualified personnel carry out installation, operation and maintenance.

- ▶ Only qualified personnel carry out all work.

To ensure the safety of personnel entering and maintaining a technical chamber, the following rules must be strictly followed:

- If applicable, employers are responsible for ensuring that all maintenance personnel are properly trained in the risks of electric shock and hazardous gases (e.g. toxic vapors) and are equipped with the necessary personal protective equipment (PPE).
- Failure to comply with safety requirements voids any liability or damage claims.
- ▶ Ensure thorough ventilation before entry to eliminate harmful gases and ensure a safe working atmosphere.
- ▶ Ensure that only one person stands on the technical chamber's internal service ladder at any time.
- ▶ Do not carry heavy or unwieldy items while climbing
- ▶ Do not work alone inside the technical chamber.

Compliance with standards and regulations

The technical chamber is designed to be entered for inspection and servicing. Therefore, all safety features, including ladders and handrails, must comply with the currently applicable standards and regulations. These requirements must be strictly observed during both installation and maintenance.

7.2 General Technical Chamber maintenance

- Regular maintenance ensures the long-term functionality and safety of the technical chamber. The technical chamber body itself is largely maintenance-free, but cleanliness and periodic inspections are essential.
- ▶ If needed, the ground frost insulation and/or thermal insulation of pipes can be done according to a respective plan and related rules and regulations.
- ▶ The final landscaping is to be done by the customer.
- ▶ The customer might consider preparing for exceptional circumstances, such as power outage, with spare power source and/or –connection.
- ▶ Document all maintenance activities in a service log.
- ▶ Ensure proper maintenance according to currently applicable local standards and regulations.
- ▶ Ensure that the technical chamber is accessible for any maintenance.
- ▶ Regularly remove sludge and floating pollutants (e.g. oil or debris) from the technical chamber.
- ▶ Wash walls with pressurized water and remove sediment from the bottom if necessary.
- ▶ Follow the safety regulations applicable to wastewater and pressurized systems during all maintenance activities.
- ▶ Maintain all installed equipment (e.g. gate valves, air valves, flow meters) according to the component manuals.
- ▶ In winter, ensure access lids and surrounding areas are kept free of ice and snow. Apply frost protection or insulation as required by local regulations and site conditions.
- ▶ Ensure that you are well equipped with spare parts.
- ▶ Repair or replace faulty parts immediately to prevent system failure.
- ▶ Prepare for emergency scenarios (e.g. power outages) with backup power supply if applicable.
- ▶ Ensure waste management for any removed materials is handled by licensed companies and according to environmental regulations.
- ▶ Visually inspect the technical chamber for any leakage on a regular basis.
- ▶ Check the set values and operating values on a regular basis.
- ▶ Check the inflow and outflow rates on a regular basis.
- ▶ Check the nominal pressure on a regular basis.

7.2.1 Flow Regulation Chamber maintenance

If the technical chamber inlet or outlet is clogged, follow these steps:

1. Open the technical chamber top.
2. Pull on the service handle and take out the flow regulator.
3. Remove sludge or objects causing the clogging.
4. Re-insert the flow regulator into the technical chamber.
5. Close the technical chamber top.

7.2.2 Level Regulation Chamber maintenance

- ▶ If the technical chamber is filled with sediments and sludge, remove them by sucking them out from outside of the technical chamber with an appropriate suction device.
- ▶ If needed, remove wooden planks and replace them.

8 Troubleshooting

8.1 Safety instructions

CAUTION!

Risk of electric shock!

Internal components may carry hazardous voltages that can cause serious injury or death if touched.

- ▶ Before working on wiring or terminals, always ensure the power supply is completely disconnected (zero potential).
- ▶ Only qualified personnel trained in electrical safety and authorized to work on industrial instrumentation perform installation, handling, and servicing.

8.2 Detecting a fault

- The technical chamber does not work properly.
- If the technical chamber contains a control panel with a display, an error code or fault message is displayed.

8.3 Correcting a fault

- ▶ Always work systematically and purposefully, even when under time pressure. Random, thoughtless disassembly and changing of settings might result in an inability to determine the original cause of the error.
- ▶ Get a general idea of the function of the technical chamber in conjunction with the overall system.
- ▶ Try to find out whether the technical chamber or a functional part of it worked properly in conjunction with the overall system before the error occurred.
- ▶ Try to clarify the cause of the error.
- ▶ Check whether any changes were made immediately before the error occurred.
- Were there any changes to the conditions or the area of application of the technical chamber?
- Were any changes (e.g. refitting) or repairs carried out on the overall system or on the technical chamber?
- Was the technical chamber used as intended?
- Have the environmental conditions changed?
- How did the fault become apparent?

Fault	Recommended action
There is no water in the pipes going into the technical chamber.	<ul style="list-style-type: none"> ▶ Check that all relevant shut-off valves are open. ▶ Check that all settings are correct. ▶ Check that all relevant filters are clean.
There is no water flow through the technical chamber.	<ul style="list-style-type: none"> ▶ Check if the technical chamber is clogged. ▶ Remove any sludge or debris from the technical chamber.
There is an issue with a component attached to the technical chamber.	<ul style="list-style-type: none"> ▶ Consult the component manual.

- ▶ For support regarding any fault, visit the website www.gfps.com/our-locations to contact your local GF specialist.

9 Disposal

NOTICE!

Proper disposal!

- ▶ Before disposal, separate the individual materials into recyclable materials, normal waste and hazardous waste.
- ▶ For questions concerning the disposal of the technical chamber, contact your national representative of GF Industry and Infrastructure Flow Solutions.
- ▶ Observe local regulations, standards and guidelines.
- ▶ Consult the safety data sheet of the technical chamber.
- ▶ A technical chamber with electrical components must be disposed of separately.
- ▶ A component marked with this symbol must be taken to separate collection of electrical and electronic equipment:



The full plastic technical chamber body can be recycled as such by companies specialized in recycling plastic complexes into products, that allow using recycled raw materials. Up-to-date list of such companies can be viewed from local plastic manufacturers associations web pages.

10 Spare parts and accessories

10.1 Spare parts

Contact your GF representative for information on spare parts for your GF product.

10.2 Accessories

Contact your GF representative for information on accessories for your GF product.

Excellence in Flow

Visit our webpage to get in touch with your local specialist:

www.georgfischer.com/locations



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