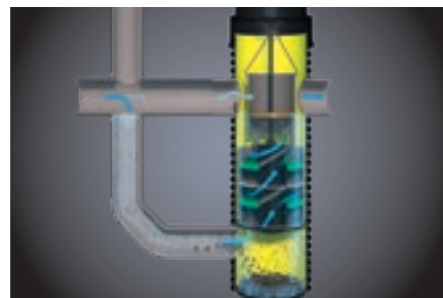
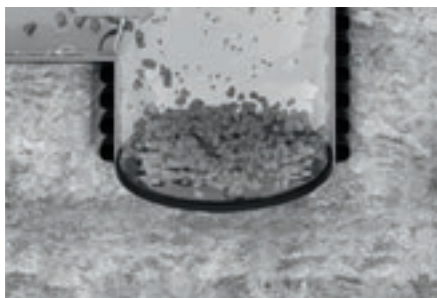
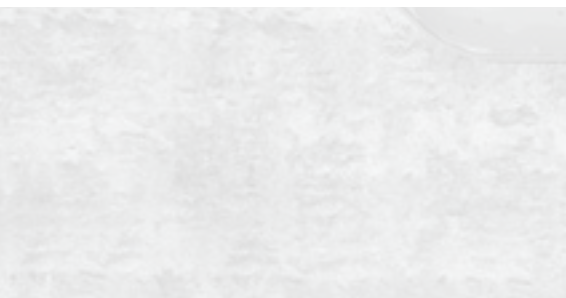
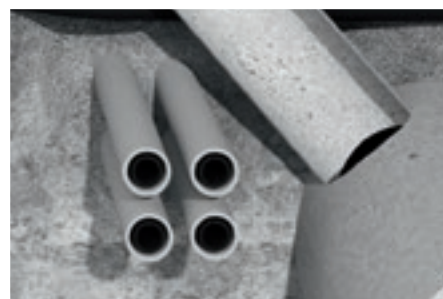
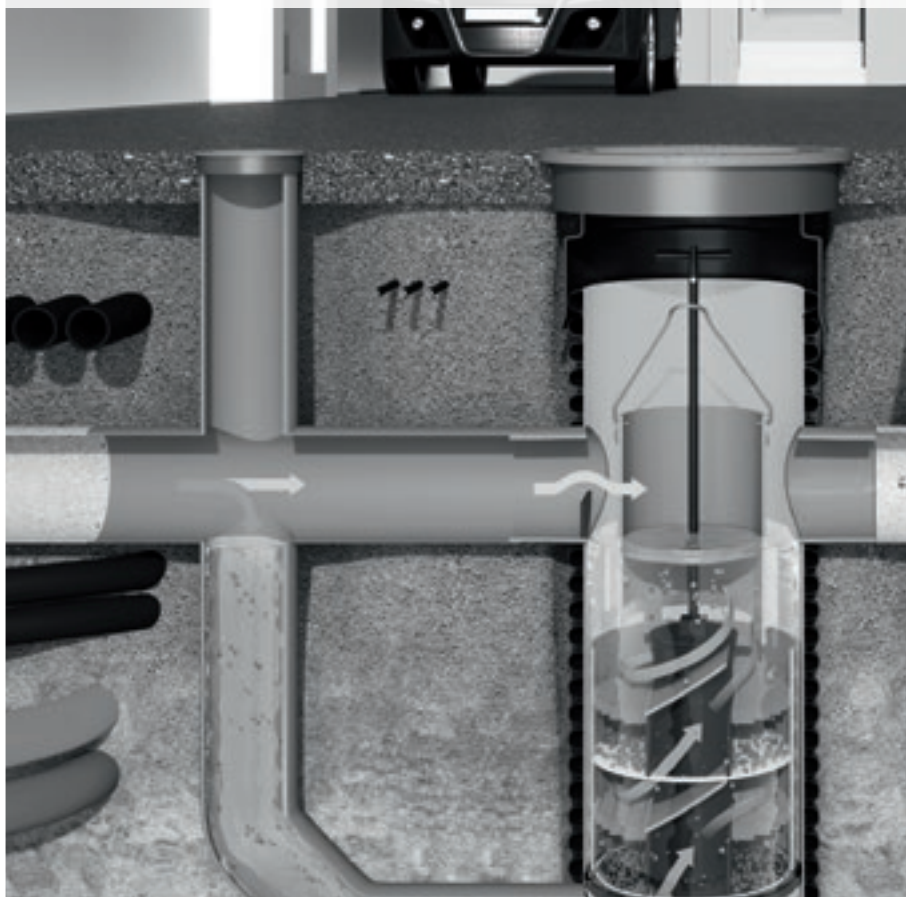


SediPoint® – sedimentation shaft

Installation and maintenance manual



Last modified: January 2020

DRAINAGE SYSTEMS
ELECTRICAL SYSTEMS
BUILDING TECHNOLOGY
INDUSTRIAL PRODUCTS

1. Safety instructions

ATTENTION

Staff responsible for installation, assembly, operation, maintenance and repair must have appropriate qualifications required for this kind of work. The operator is responsible for organising in detail authority, responsibility and supervision of staff.

The operational safety of the system components supplied is only guaranteed in case of proper installation and correct use. Technical threshold values must not be exceeded.

Observe the accident prevention regulations and relevant standards and directives for installation, fitting, operation, maintenance and repair!

This includes (in extracts):

- Accident prevention regulations
 - Construction work BGV C22 (*Bauarbeiten BGV C22*)
 - Technical wastewater systems GUV-V C5 (*Abwassertechnische Anlagen GUV-V C5*)
- Safety regulations for working in enclosed spaces of technical wastewater systems GUV-R 126 (*Sicherheitsregeln für Arbeiten in umschlossenen Räumen von abwassertechnischen Anlagen GUV-R 126*)
- Handling biological working materials in technical wastewater systems GUV-R 145 (*Umgang mit biologischen Arbeitsstoffen in abwassertechnischen Anlagen GUV-R 145*)
- Directives for working in tanks and narrow spaces BGR 117 (*Richtlinien für Arbeiten in Behältern und engen Räumen BGR 117*)
- Standards
 - Excavations and trenches – slopes, planking and strutting, breadths of working spaces DIN 4124 (*Baugruben und Gräben - Böschungen, Verbau, Arbeitsraumbreiten DIN 4124*)
 - Construction and testing of drains and sewers DIN EN 1610 (*Einbau und Prüfung von Abwasserleitungen und -kanälen DIN EN 1610*)
- Tool for safety and health protection in technical wastewater systems

WARNING

- Hazards from gases and vapours such as risk of suffocation, risk of poisoning and risk of explosion
- Risk of falling
- Risk of drowning
- Germ pollution and wastewater with sewage
- High physical and psychic strain during work in deep, narrow and dark spaces
- And others

DANGER

Non-compliance with the operating manual may result in considerable property damage, injury or death.

CAUTION

The system is part of an entire network. During installation, maintenance, service and repair work on one component, always consider the entire system. Avoid work during rain.

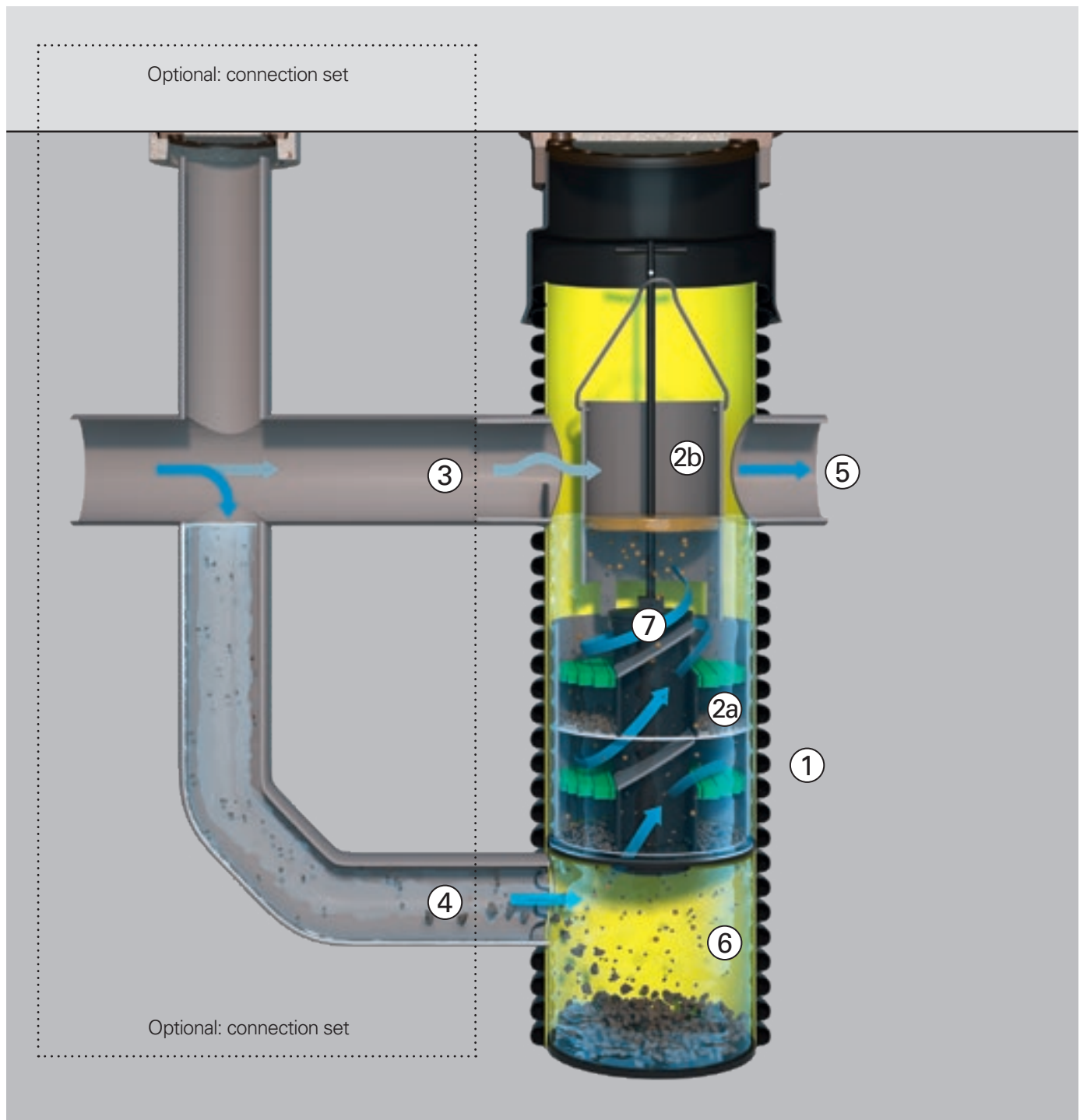
Changes or modifications to the system may only be carried out with the agreement of the manufacturer. For safety reasons, use original spare parts and accessories approved by the manufacturer. The use of other parts may void the liability for any consequences arising therefrom.

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2. SediPoint at a glance

SediPoint with optional connection set



- ① SediPoint
- ②a Sediment collector with flow separator
- ②b Immersion pipe
- ③ Integrated bypass incl. backwater threshold
- ④ Inlet
- ⑤ Outlet
- ⑥ Mud chamber
- ⑦ Operating pipe with telescopic rod

3. System description

3.1 Application

SediPoint is a shaft system for the treatment of polluted stormwater runoff from built-up areas to protect the

environment and downstream stormwater management structures.

3.2 System description

Lightweight and durable PP shaft DN 600, black outside, yellow inside, for optimum inspectability. Designed for standard shaft covers CW 610 to be supplied on site.

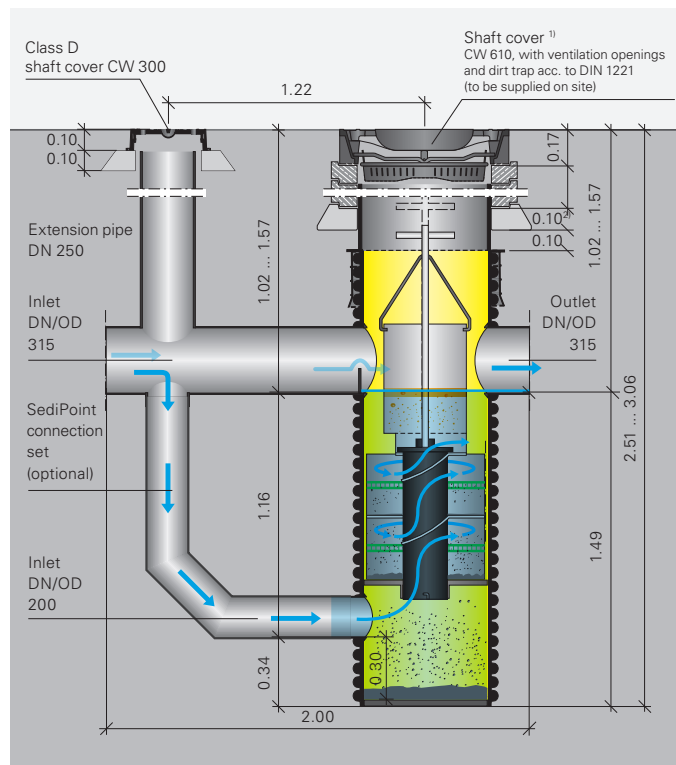
Inlet diameter DN 200 KG spigot, outlet diameter DN 315 KG spigot, as reducer on site as required. Integrated bypass DN 315 KG spigot.

Optional accessories:

- SediPoint connection set as a drop structure to create the entire SediPoint inlet situation including inspection and cleaning access to the outside drop structure
- Extension pipe for inlet depths greater than 1.57 m to 2.50 m
- BARD ring class D concrete support ring

SediPoint® without extension pipe

Inlet soil depth 1.02 to 1.57 m

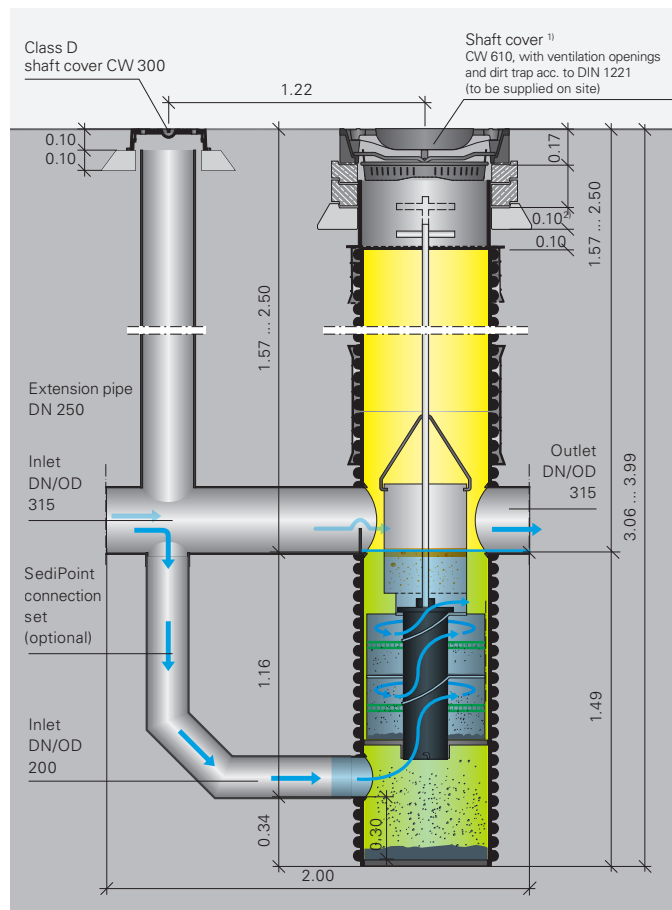


¹⁾ Class D shaft cover, incl. 1 cm mortar joint

²⁾ BARD ring

SediPoint® with extension pipe

Inlet soil depth 1.57 to 2.50 m



3. System description

3.3 Function description

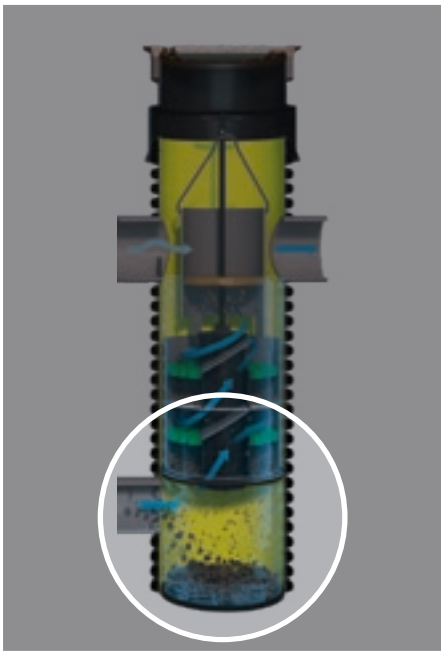
Sedimentation separates coarse and fine particles and collects them in the sediment. The immersion wall retains, e.g., oil in case of spills with light liquids.

3.4 Treatment stages

1

Coarse particles

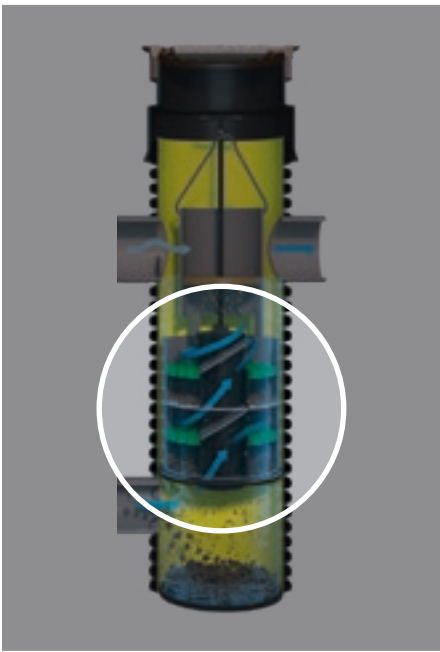
Coarse particles sediment in the mud chamber



2

Fine particles

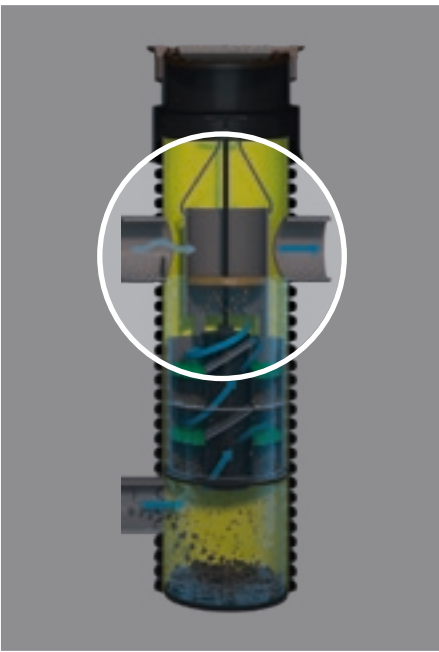
Fine particles sediment thanks to the highly efficient flow separator technology



3

Floatables and light liquids

Floatables and light liquids are retained in case of spills*



3.5 Collecting volumes

System	Light liquid * collecting volume [litres]	Mud chamber collecting volume [m³]	Permanent water level volume [m³]
SediPoint	60	0.15	0.45

* In case of spills in dry weather

4. Installation

4.1 Transport and construction site storage

Please note

Check all components for completeness and intactness upon delivery. Damaged parts must NOT be installed. Do NOT throw components, they include breakable parts!




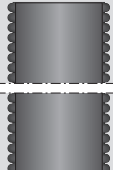

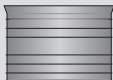

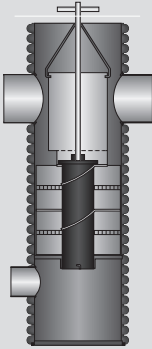
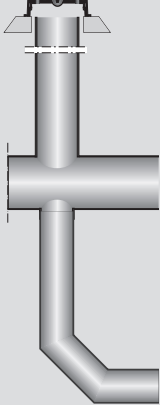


The shaft components are delivered packaged. Unload using appropriate lifting equipment (e.g., excavator, wheel loader). Use wide hoisting slings.

Protect the material and packaging from humidity and direct sunlight during storage. Store the components such that they are not damaged and that they are protected from getting dirty. The impact strength of the material decreases in sub-zero temperatures.

The relevant safety provisions of the building industry apply.

Delivery includes

BARD ring		Optional accessories
Shaft cover		SediPoint standard design
Profile sealing ring		Cone with sealing ring
SediPoint extension pipe		Optional accessories
Profile sealing ring		Extension pipe incl. coupling and 2 sealing rings
Coupling		
Profile sealing ring		
SediPoint		SediPoint standard design
		Base shaft, sediment collector, operating pipe
SediPoint connection set		SediPoint connection set (optional)
		Connection set, consisting of crosspiece, coupling KG 315, bend segment, coupling KG 200, extension pipe DN 250 and class D shaft cover CW 300

4. Installation

4.2 Excavating pit and creating bearing



Create the excavation pit according to the planning specifications. The respective country-specific provisions, e.g., DIN 18300 "Earthworks" (*Erdarbeiten*) and DIN 4124 "Excavations and trenches" (*Baugruben und Gräben*), apply. When installing the shaft, comply with, e.g., DIN EN 1610 "Construction and testing of drains and sewers" (*Einbau und Prüfung von Abwasserleitungen und -kanälen*).

Create and compact the shaft bearing with 10 cm to 15 cm of stoneless, compactable material.

4.3 Pre-assembling the base shaft

The base shaft is delivered as individual shaft body. Sealing ring, operating pipe,

sediment collector and cone form a packaging unit and are separated at first.

Packaging unit



Components included



Sealing ring



Operating pipe



Sediment collector



Cone

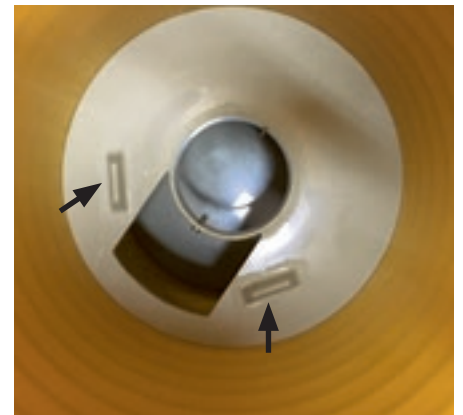
4. Installation



Insert the sediment collector in the base shaft.



Inserted sediment collector



Please note

The shaft bottom's lock pins must snap into the recesses in the collector bottom.



Snap the bail of the sediment collector in the shaft wall to avoid uplift.



Insert the operating pipe in the base shaft with bayonet nut connector.



Please note

The bayonet nut connector is closed if the handles point towards inlet and outlet. Close by turning clockwise.



Adjust the telescopic rod of the operating pipe, if required, with extension for large shaft depths.



For better accessibility, position the handle directly under the mud bucket.

4. Installation

4.4 Installing the base shaft

Place the shaft at the appropriate height on the prepared planum and secure it to

prevent shifting. Ensure upright alignment.

■ Shaft design depending on the inlet pipe invert depth

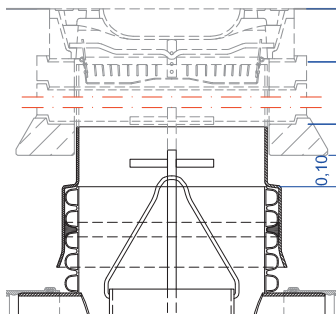
SediPoint can be adjusted to shallow connecting sewers by cutting the cone to length and to deep connecting

sewers by using equalisation rings. Extension pipes are additionally used for connecting sewers with larger depths.

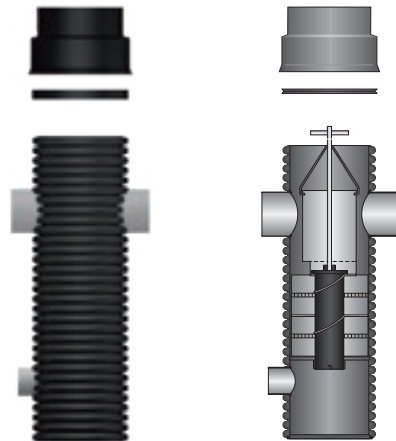
A

SediPoint with class D cover

min. inlet depth of pipe invert of 1.02 m below ground level
max. inlet depth of pipe invert of 1.57 m below ground level



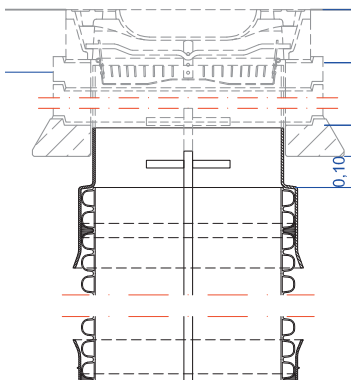
Mount cone with sealing ring on base shaft into the second corrugation trough, use lubricant.



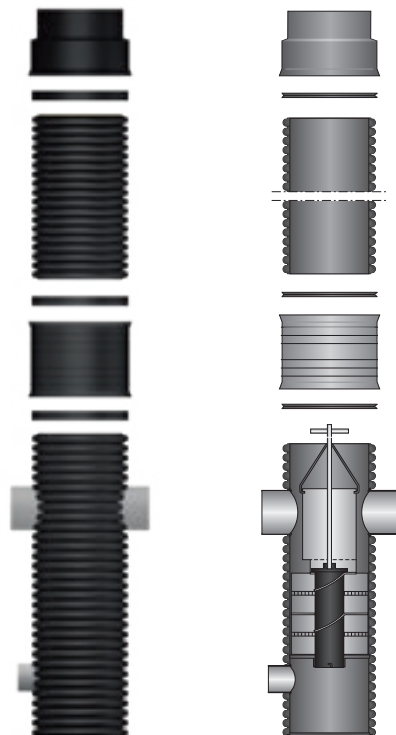
B

SediPoint with extension pipe and class D cover

min. inlet depth of pipe invert of 1.57 m below ground level
max. inlet depth of pipe invert of 2.50 m below ground level



Mount cone with sealing ring on base shaft into the second corrugation trough, use lubricant.



4. Installation

■ Cutting the extension pipe

Cut the pipes to length in the middle of the corrugation trough and align upright to the pipe axis using a fine-toothed saw or other appropriate tools. Remove edges and irregularities on the cutting surfaces with a grater, file or another suitable tool.



■ Cone information

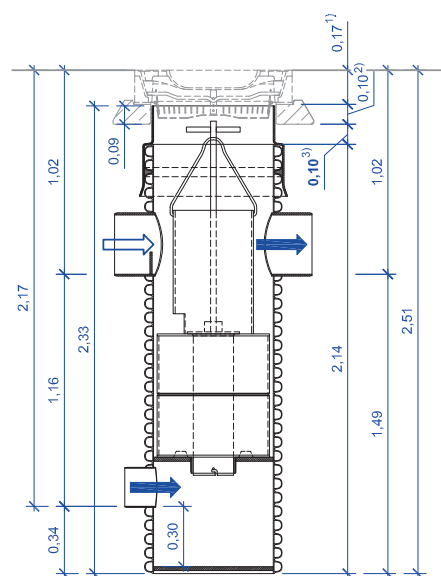
- The BARD ring (class D concrete support ring) can be used as an alternative to on-site concrete support. Generally, both must be positioned 10 cm over the edge of the shaft or

extension pipe! Ensure load separation to the shaft or cone when using on-site concrete support. No loads must be transferred from the cover to the shaft.

- The cone neck can be cut to length and must remain as long as possible.
- The support rings protect the cone neck against earth pressure. The soil must not touch the cone.

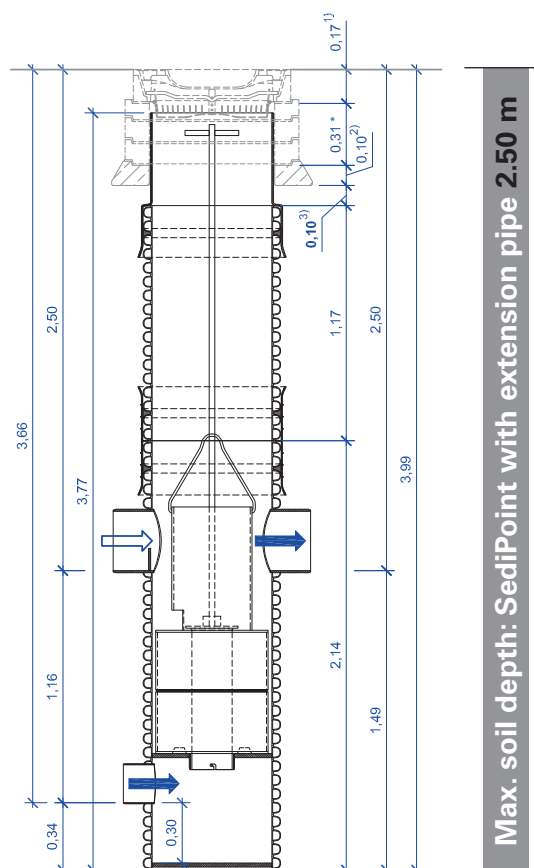
Caption

- 1) Class D shaft cover, incl. 1 cm mortar joint
- 2) BARD ring
- 3) Spacing between the top edge of the extension pipe and the bottom edge of the BARD ring = **0.10 m**



Min. outlet height 1.02 m

Cone - 27 cm shortened



Max. outlet height 2.50 m

Cone unshortened

* ... 1x support ring h = 8 cm,
2x support ring h = 10 cm,
incl. 1 cm mortar joint each

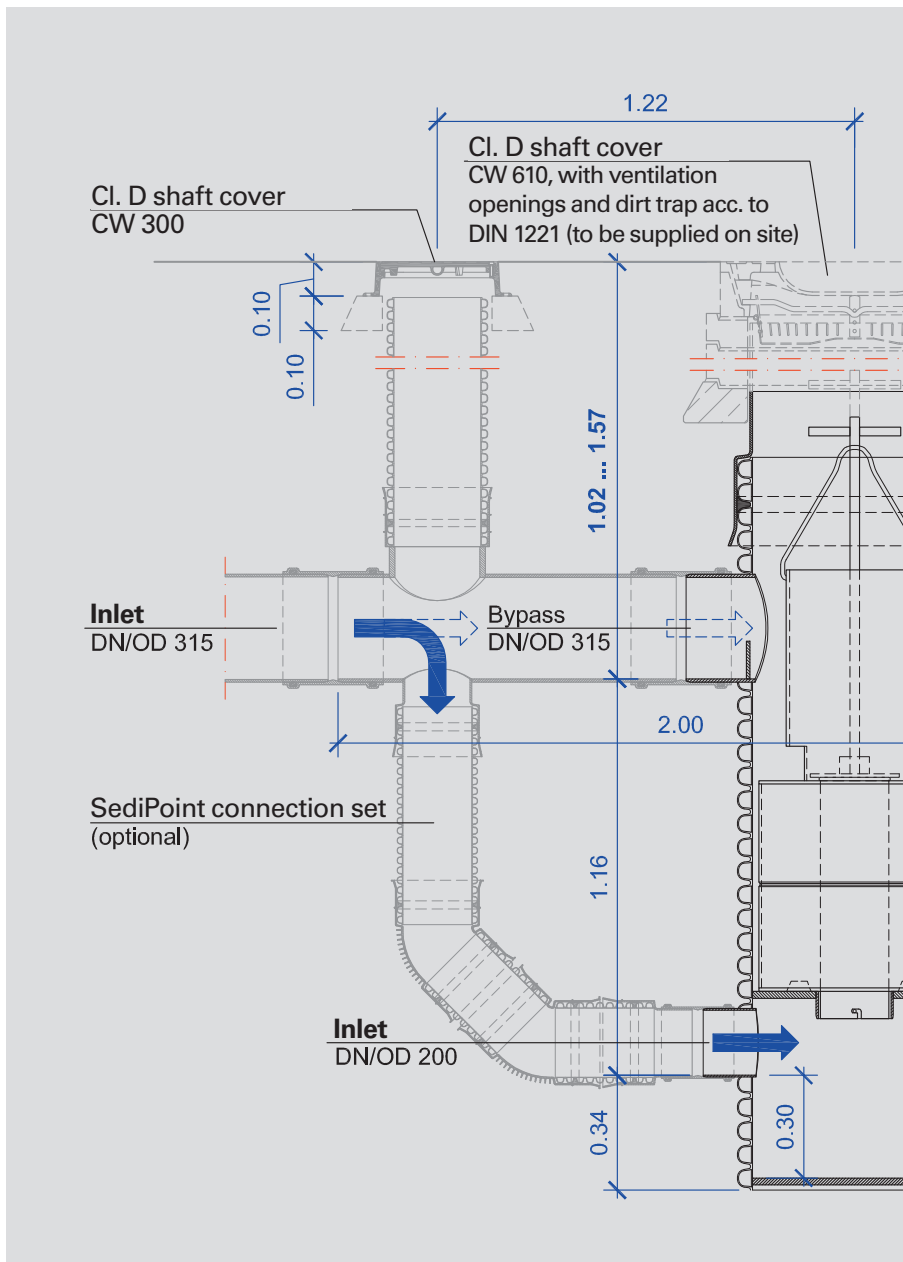
4. Installation

4.5 Embedding the pipe

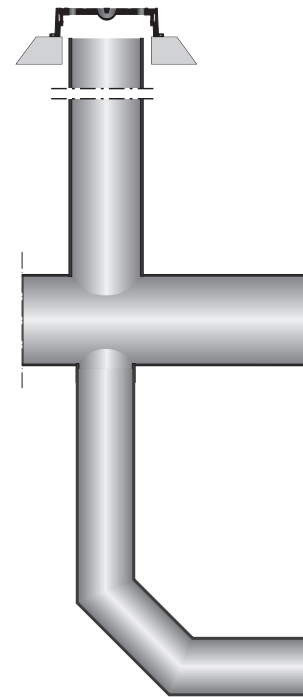
Country-specific regulations must be observed. DIN EN 1610 forms the basis for the entire installation.

Create embedding and side filling with stoneless, compactable material. Compact material layer by layer.

4.6 Optional: connection set



For structured-wall pipe connections, mount the sealing rings into the second corrugation trough. Use lubricant. The extension pipe DN 250 can be cut to length, if required (see Section 4.4).



Example SediPoint outlet height 1.02 – 1.57

4. Installation

4.7 Tests before backfilling and impermeability test

Before backfilling the excavation pit, check the system for proper installation and leak-tightness.

The following tests must be performed in particular:

1 Height of the shaft according to design specifications ✓

2 Exact adjustment of the shaft ✓

3 Check for damage, foreign objects or coarse contamination ✓

4 Impermeability test ✓

Attention!

We recommend having the system approved by the site management before backfilling.

4.8 Backfilling excavation pit

Backfill the excavation pit according to design specifications. Compact material layer by layer. Comply with DIN EN 1610 and/or country-specific regulations.

Make sure to compact the area around the extension pipe evenly and do not shift the pipe while doing so.

4.9 Installing the shaft cover

4.9.1 SediPoint

Shaft covers and concrete support rings are not included in the scope of delivery of FRÄNKISCHE Rohrwerke and must be supplied on site.

Cover and cone are generally load separated, i.e., cone and extension pipe are not subject to vertical forces from the free cover bearing. The free bearing transfers loads from the surface to the cover directly to the load-bearing underground.

Install shaft covers according to DIN EN 124, CW 610, with ventilation openings,

installation according to design specifications. You may put support rings according to DIN 4034 on a respective bearing under the shaft cover. We recommend using the BARD ring from FRÄNKISCHE's range of accessories as bearing.

The shaft cover can be placed on a 10-mm-thick mortar joint to avoid stationary loads between equalisation ring and shaft cover. Create the bearing from compacted bearing layer material (EV2 module $\geq 100 \text{ MN/m}^2$) or in-situ concrete

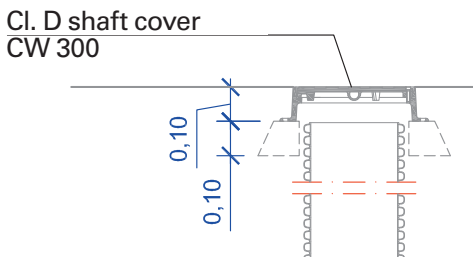
of at least C 16/20. Avoid connections of the bearing with the cone of the extension pipe by any means (use casing aid!). Vertical loads may only be transferred to the load-bearing underground.

The cone can be cut to length as specified in Section 4.4.

4. Installation

4.9.2 Optional: connection set

The optional connection set includes a class D shaft cover.



Use appropriate and approved lifting equipment, operating wrenches and means of transport for transporting and opening / closing the cover only.

Observe the maximum load of the shaft cover also during the construction period.

Cover and extension pipe are generally load separated, i.e., the extension pipe is not subject to vertical forces from the free cover bearing. The free bearing transfers loads from the surface to the cover directly to the load-bearing underground.

The cast iron cover can be integrated in the road surface without any problems.

As soon as the road superstructure is being prepared, the bearing for the shaft covers must be created.

Prepare a lean concrete bearing of min. 10 cm for a safe and free load transfer from the cover to the building ground. Include an expansion joint between the bearing and extension pipe.

The bearing surface for the frame must be even. The frame of the shaft cover must rest on the bearing with its entire contact area.

If the cover is outside the road, the bearing for the cover must be prepared separately at least from non-cohesive, compactable material. The professional compaction with appropriate equipment

is essential (compaction 98 % DPR according to ZTV StB). If required, a bearing made of lean concrete makes sense in this case, too.

Using plate compactors or vibrating rollers on the shaft covers is not permitted.

Clean the covers, in particular the contact surfaces, after the work has been completed and/or after every opening.

Use common hexagonal wrenches M10 to screw connect the cover with the frame.

4.10 Filling the system

After the work has been completed, the system must be refilled with water up to the outlet. This is required to ensure the

retention of floatables and light liquids through the immersion wall.

5. Cleaning

5.1 General cleaning information

In order to ensure long-term smooth operation of the system, it is necessary to carry out cleaning at reasonable intervals.

The recommended cleaning interval is 2 years.

The cleaning intervals are generally determined depending on local conditions and/or the degree of pollution. The cleaning interval mentioned applies to average to increased degrees of pollution of the areas. 500 kg/(ha x a) of dry matter have been considered. In the case of a new system, we recommend checking the degree of pollution

and, if necessary, cleaning the system on a monthly basis. A suitable cleaning interval can be deduced from these experiences, if applicable. To ensure reliable operation, cleaning activities should be carried out at least every two years, preferably in autumn after the leaves fall.

All cleaning activities can be carried out by a sewer cleaning specialist. Alternatively, cleaning can be performed using a high-pressure cleaner and a wastewater pump. The maximum outside diameter of the pump must not exceed 170 mm. For disposal of

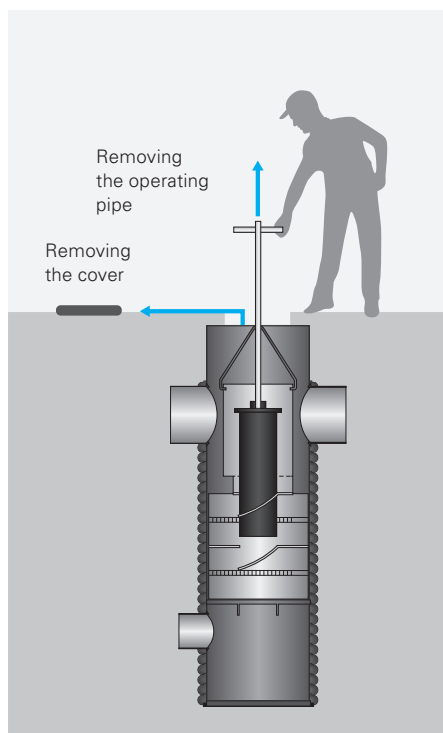
sediment and/or flushing water, relevant legal provisions must be observed, if applicable.

Irrespective of the cleaning interval, we recommend inspecting the system visually through the open cover at least every 3 months.

5.2 Cleaning

1

Removing the operating pipe



a) Remove the shaft cover and the dirt trap. Empty the dirt trap. Observe the relevant accident prevention regulations, in particular those with regard to securing the working area for the entire traffic. The shafts are not accessible.

b) Remove the operating pipe. To do so, open the bayonet nut connector by turning it counter-clockwise. Leave the sediment collector in the shaft. Snap the tip of the bail of the sediment collector in the shaft wall to avoid uplift of the collector in the shaft.



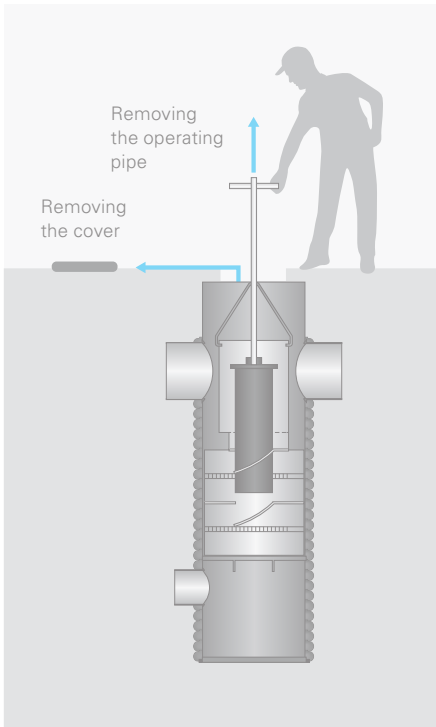
View of the shaft with operating pipe



After removing the operating pipe

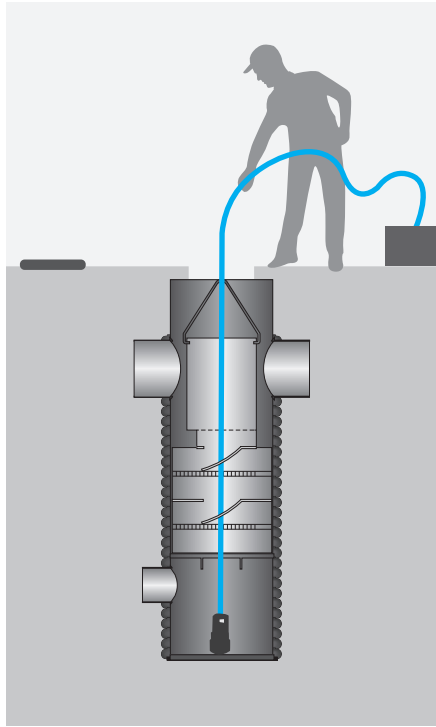
5. Cleaning

1 Removing the operating pipe



See page 15

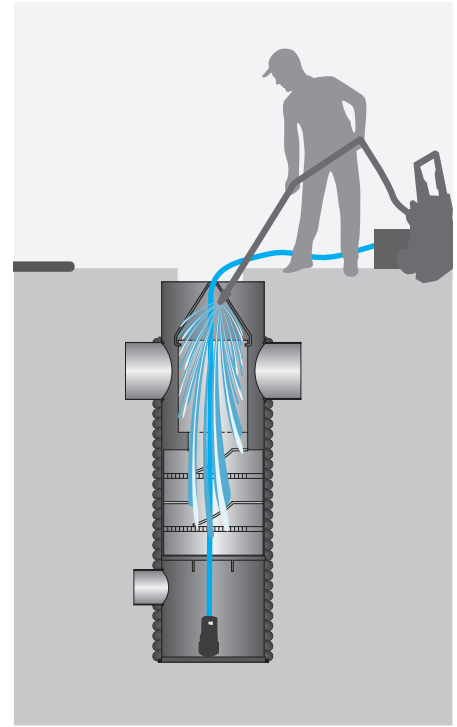
2 Vacuuming with a pump or a cleaning /vacuum truck



Empty the cleaning shaft by removing water and sediment.

To do so, direct the wastewater pump or suction hose through the maintenance channel of the sediment collector all the way down to the bottom of the mud chamber below the sediment collector.

3 High-pressure cleaning and vacuuming



Flush the sediment collector using a high-pressure cleaner and at the same time drain the flushing water.

To do so, clean the depots and flow separators through the cleaning shaft of the sediment collector.

■ Completing cleaning work

- 1 Insert the operating pipe.
- 2 Close the bayonet nut connector by turning it clockwise. The bayonet nut connector is closed if the handles point towards inlet and outlet.
- 3 Refill the shaft.
- 4 Insert the dirt trap.
- 5 Close the cover.

5. Cleaning

5.3 Special case – removing the sediment collector

It is normally not necessary to remove the sediment collector when cleaning SediPoint. If, in exceptional cases, above

ground inspection or cleaning is required, the sediment collector can be removed using a winch or tripod.

Please note

When re-inserting the sediment collector, the lock pins of the shaft bottom must snap into the recesses of the collector base.



Make sure that the bail snaps into the shaft wall before the system is re-filled to avoid uplift.



5.4 Optional connection set

When using the optional connection set, you can determine the degree of pollution of the inlet through the open cover. The drop structure empties when the flushing

water is drained from the shaft, which allows for pollution to be removed by high-pressure cleaning and simultaneous removal.

5.5 Special case – light liquid spills

After light liquid spills, have the system and, if required, the connection set emptied and cleaned by a professional

provider. Washed matter must be disposed of appropriately.

Notes

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Important note:

General information on using our products and systems:

Information about or assessments of the use and installation of our products and systems is exclusively provided on the basis of the information submitted. We do not assume any liability for damage caused by incomplete information. If the actual situation deviates from the planned situation or if a new situation occurs or if different or new installation techniques are applied, these must be agreed upon with FRÄNKISCHE, since these situations or techniques may lead to different conclusions.

Notwithstanding the above, the customer is solely responsible for verifying the suitability of our products and systems for the intended purpose. In addition, we do not assume any liability or responsibility for system characteristics and functionalities when third-party products or accessories are used in combination with FRÄNKISCHE systems. We only assume liability if original FRÄNKISCHE products are used. For use in other countries than Germany, country-specific standards and regulations must also be observed.

6. Technical advice – local technical consultants

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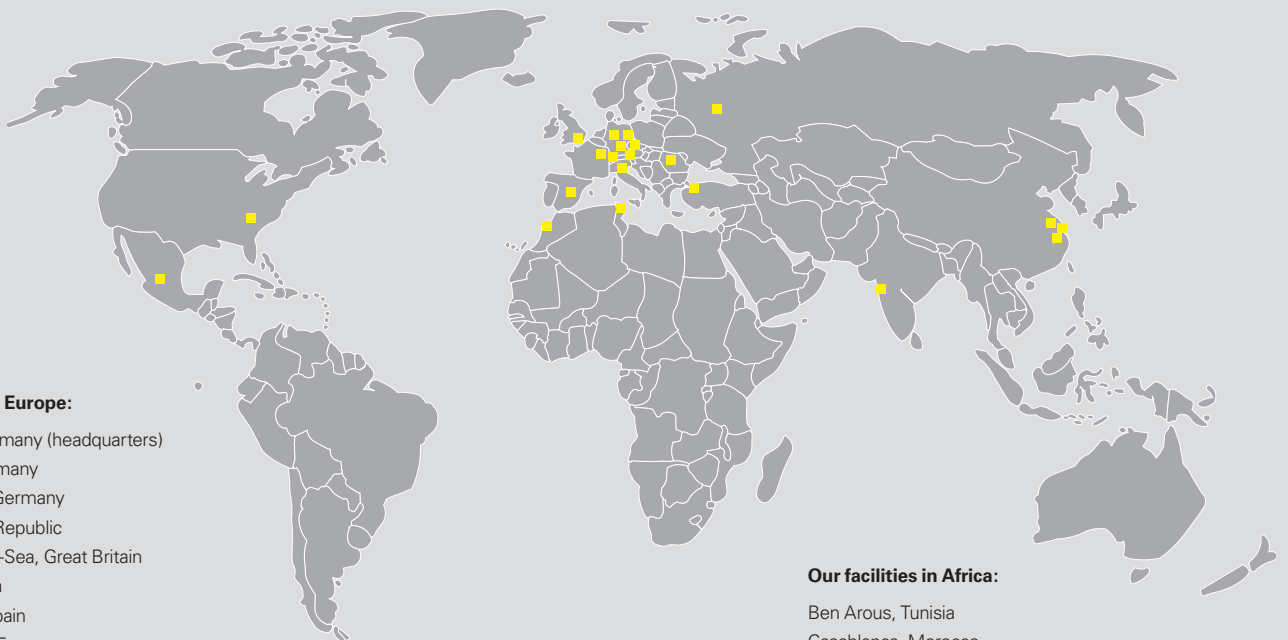
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Rooted in Königsberg – globally successful!



Our facilities in Europe:

Königsberg, Germany (headquarters)
Bückeberg, Germany
Schwarzheide, Germany
Okříšky, Czech Republic
St.-Leonards-on-Sea, Great Britain
Moscow, Russia
Yeles/Toledo, Spain
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Changshu, China
Pune, India

Our facilities in Africa:

Ben Arous, Tunisia
Casablanca, Morocco

Our facilities in North America and Mexico:

Anderson, USA
Rochester Hills, USA
Guanajuato, Mexico

FRÄNKISCHE is an innovative, growth-oriented, medium-sized family-owned enterprise and industry leader in the design, manufacturing and marketing of technically superior corrugated pipe systems for drainage, electrical, building technology and industrial applications.

We currently employ about 4,200 people worldwide. Both our many years of experience and expertise in plastics pro-

cessing, our consulting services and the large array of products are highly valued by our customers.

FRÄNKISCHE is a third generation family owned business that was established in 1906 and is now run by Otto Kirchner. Today, we are globally represented with production facilities and sales offices. The proximity to our customers enables us to develop products and solutions

that are perfectly tailored to our customers' needs. Our action and business philosophy focus on our customers and their needs and requirements for our products.

FRÄNKISCHE – Your partner for sophisticated and technologically advanced solutions.