FRÄNKISCHE

# Stormwater treatment systems

## for small to very large areas





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DRAINAGE SYSTEMS

ELECTRICAL SYSTEMS

BUILDING TECHNOLOGY

INDUSTRIAL PRODUCTS

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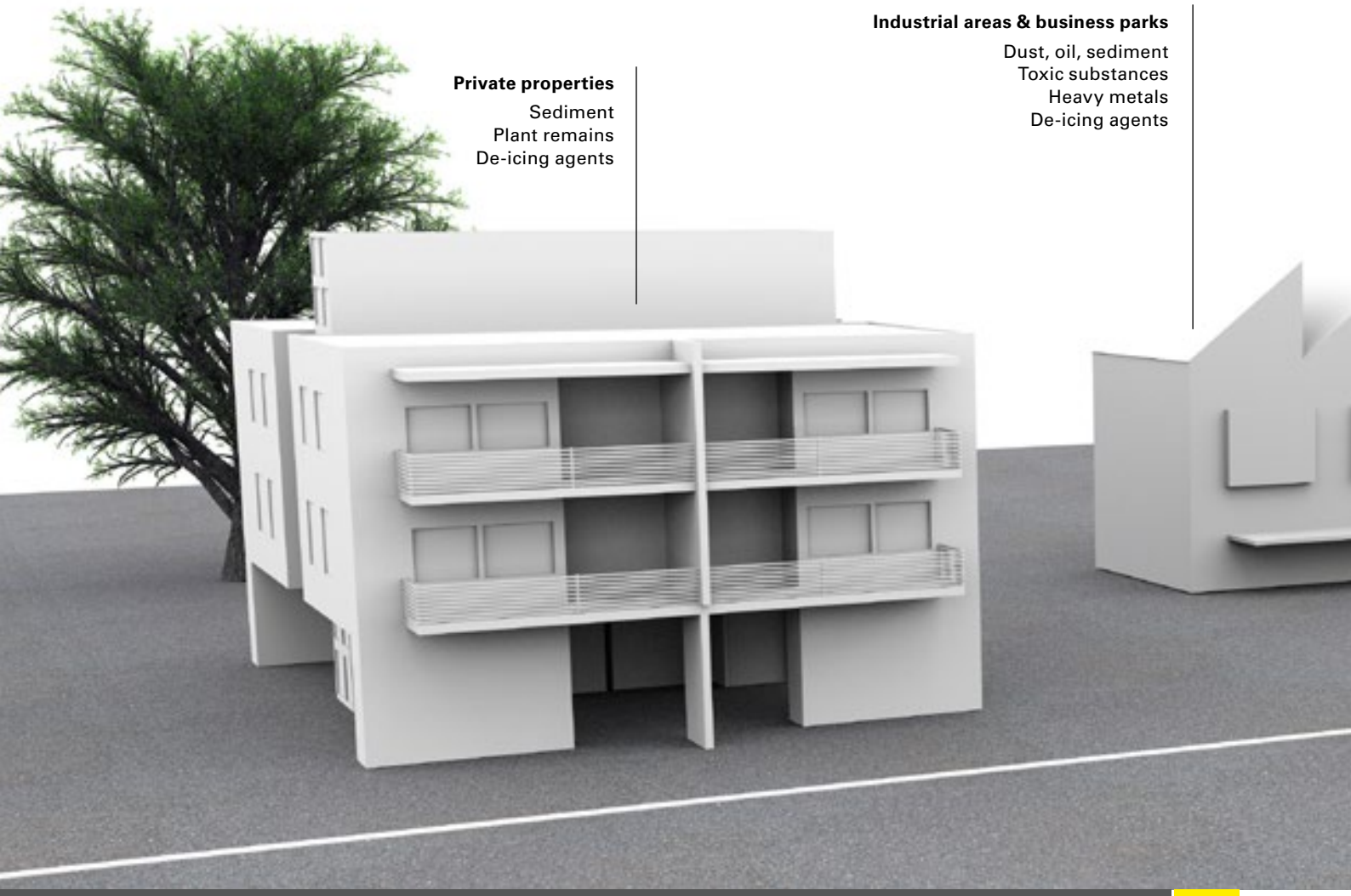


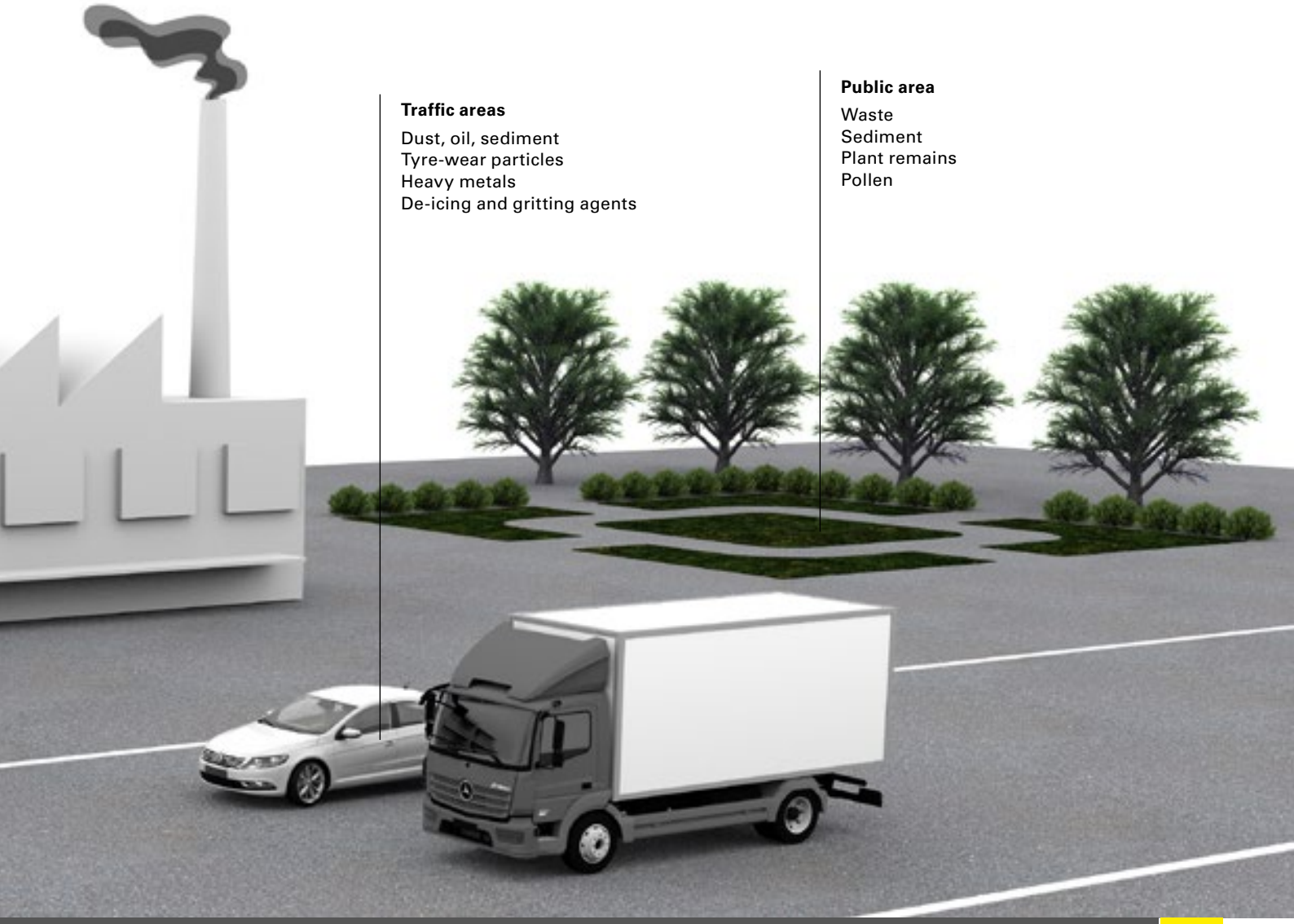

# Pollution of stormwater 2

## To protect waterbodies and storage/infiltration systems

Rain falls on roads, squares, roofs, stadiums and many other paved surfaces. Wherever stormwater cannot be treated naturally, our competencies are needed: namely protection of waterbodies and storage/infiltration systems from the discharge polluted with substances.

Rocks, leaves, sand and especially fine and solid particles must be removed from the stormwater to shield the storage/infiltration system from this dirt. To protect the environment, stormwater needs to be cleared of particle-bound pollutants, such as PAH and oil.

To make stormwater free from dirt and pollutants, technical solutions such as SediPipe and SediPoint are called for, since these can fulfil this task efficiently, reliably, durably and with as little maintenance as possible.




# Treatment with SediPipe or SediPoint

2

## Benefits at a glance

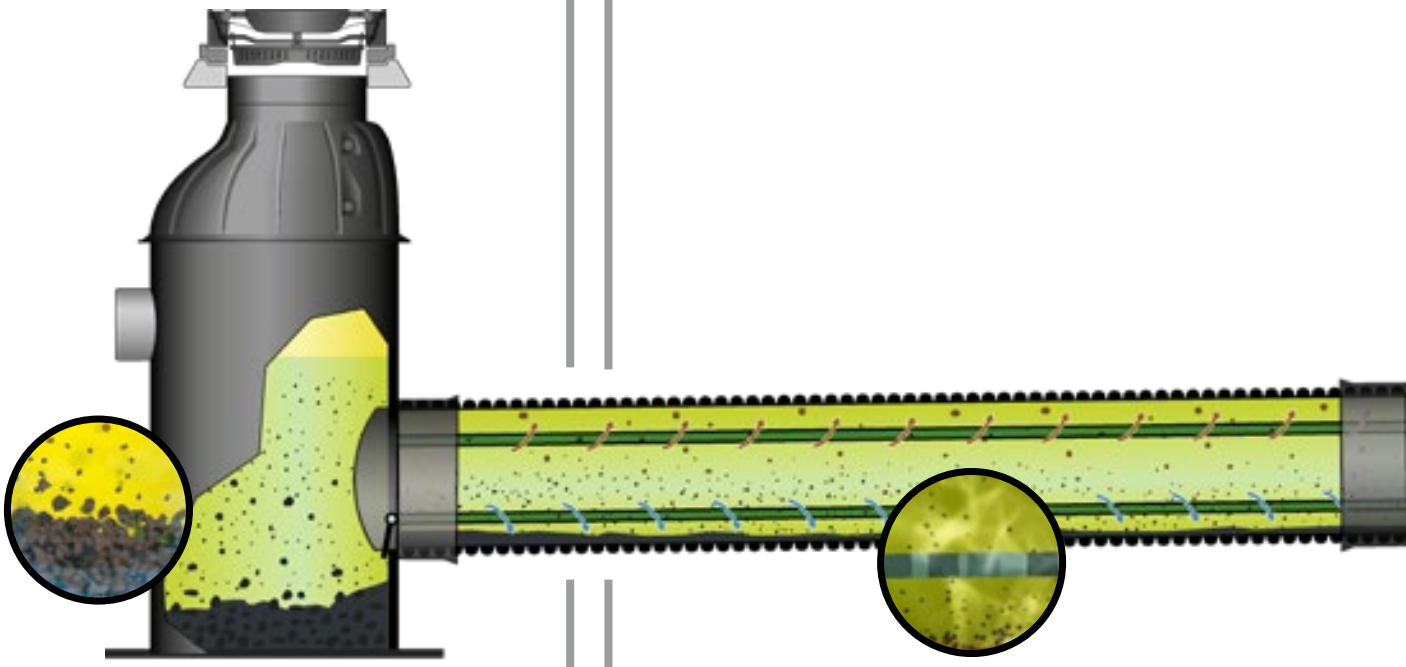
- Proven treatment performance for sedimentation and separation of light liquids
- Optimised sedimentation process and retention of fine particles thanks to flow harmonisation
- Sediment control thanks to flow separator
- Use of SediPipe possible for small to very large collection areas
- Easy and quick installation due to pre-fabricated system
- No space on the surface required – completely underground installation
- Space-saving arrangement, minimised construction field (on the channel route and under existing media)
- Easy maintenance using conventional sewer cleaning equipment
- Cleaning interval of 1 to 4 years

SediPoint

SediPipe XL

## Start shaft
### ... as mud collector

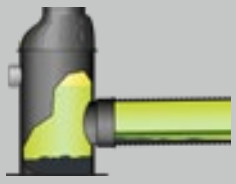
## Sedimentation path
### ... with flow separator



### Retention of coarse particles

Coarse dirt particles settle already in the start shaft.

### Mud collector

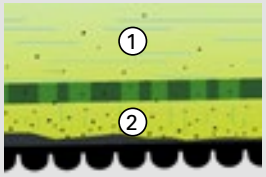


The start shaft acts as a mud collector.

### Optimised sedimentation process of fine particles

The stretched and slim sedimentation chamber reduces the time and distance until particles settle, and causes flow harmonisation. Both factors together prevent turbulences and thus ensure an optimal sedimentation process.

### Sediment control

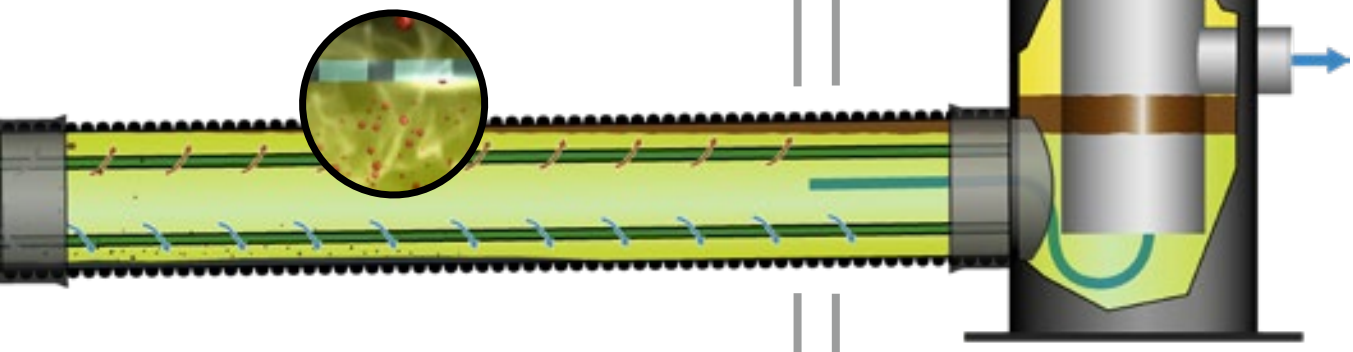



1) Harmonised plug flow
2) Controlled sediment depot

The patented flow separator technology creates an area with little water movement in the depot, thus preventing remobilisation of the sediment already settled even in case of heavy rains.

Treatment performance proven by the following independent institutes

TÜV Rheinland LGA | TU Delft | IKT | IFS Hannover | HTWK IWS

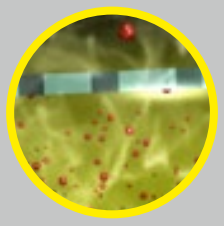


## Target shaft

... with immersion wall



### Separation of light liquids



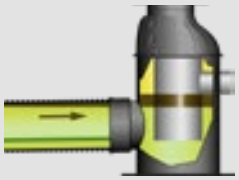
- Separation of light liquids in case of spills during rain or fire (fire water)
- Separation performance of a coalescence separator

### High-performance oil retention

SediPipe XL plus

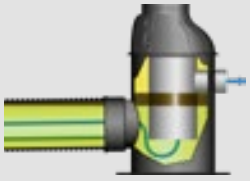
- Extra safety
- Efficient spill precaution
- Easy cleaning and quick return to service

### Retention of light liquids



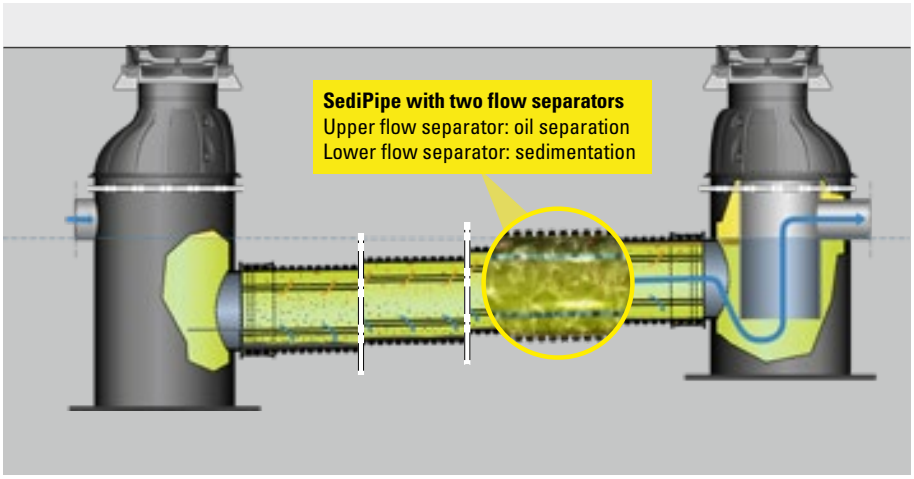
Due to the slight gradient of the pipe, light liquids that rise upwards in the sedimentation path enter the target shaft in which these are collected.

### Immersion wall for sediment control



The immersion wall integrated into the target shaft controls the sediment.

## SediPipe XL plus




**Description**
SediPipe XL plus is equipped with two flow separators. The upper flow separator is used to separate light liquids.

**Application**
Treatment of polluted stormwater runoff from large connectable areas and in particular retention and/or separation of light liquids in case of spills in dry weather and during rain.

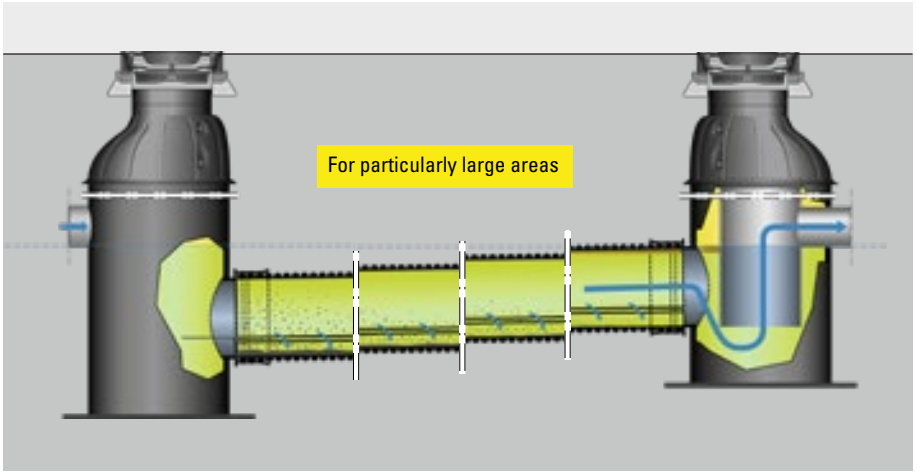
**Inlet and outlet angle**
freely selectable

**Connectable area**
up to 44,450 m²

| System types | Pipe Ø | Length of sedimentation path |
|---|---|---|
| SediPipe XL plus 600/6 | DN 600 | |
| SediPipe XL plus 600/12 | DN 600 | |
| SediPipe XL plus 600/18 | DN 600 | |
| SediPipe XL plus 600/24 | DN 600 | |

6 m 12 m 18 m 24 m

## SediPipe XL




**Description**
SediPipe XL has been specifically designed for large connectable areas.

**Application**
Treatment of polluted stormwater runoff from large connectable areas and retention and/or separation of light liquids in case of spills in dry weather.

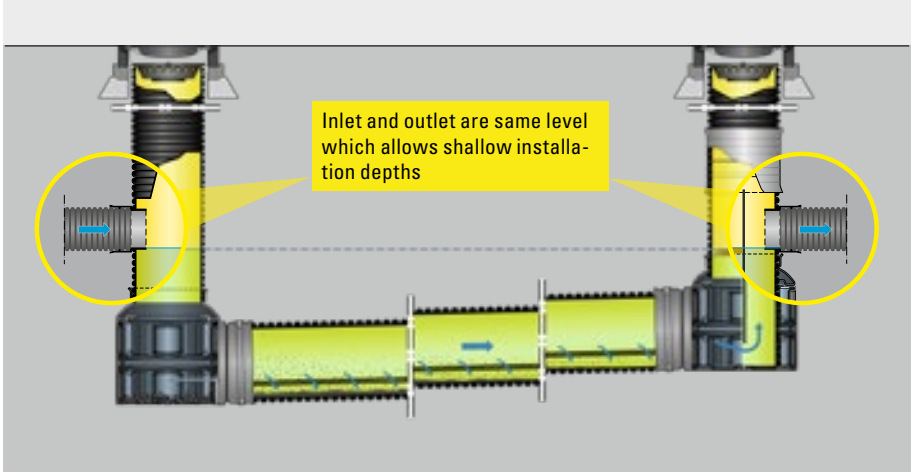
**Inlet and outlet angle**
freely selectable

**Connectable area**
up to 44,450 m²

| System types | Pipe Ø | Length of sedimentation path |
|---|---|---|
| SediPipe XL 600/6 | DN 600 | |
| SediPipe XL 600/12 | DN 600 | |
| SediPipe XL 600/18 | DN 600 | |
| SediPipe XL 600/24 | DN 600 | |

6 m 12 m 18 m 24 m

## SediPipe level




| System types | Pipe Ø | Length of sedimentation path |
|---|---|---|
| SediPipe level 400/6 | DN 400 | |
| SediPipe level 500/6 | DN 500 | |
| SediPipe level 500/12 | DN 500 | |
| SediPipe level 600/6 | DN 600 | |
| SediPipe level 600/12 | DN 600 | |

6 m 12 m 18 m 24 m

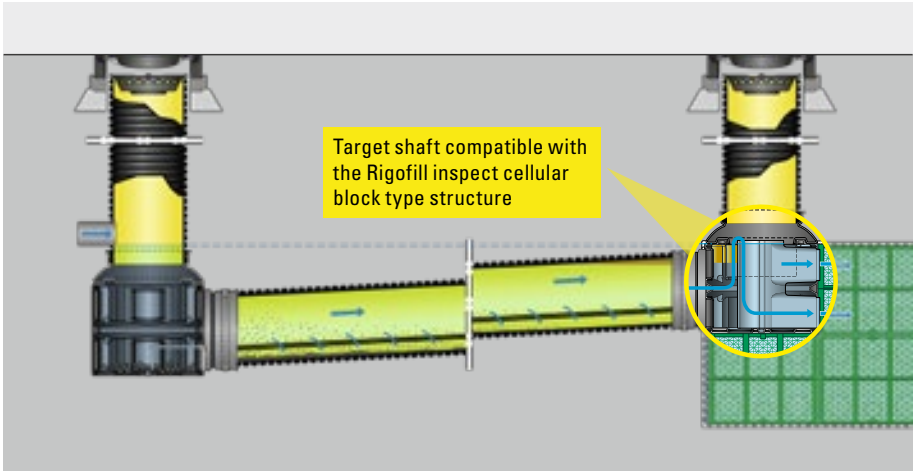
**Description**
In case of SediPipe level systems, inlet and outlet are same level. This allows minimum installation depths of the drainage pipe and/or the downstream systems.

**Application**
Treatment of polluted stormwater runoff with inlet and outlet being same height and universal pipe connection for all downstream installations. The system retains also light liquids in dry weather.

**Flow direction**
straight, right, left

**Connectable area**
up to 23,350 m²

## SediPipe basic




| System types | Pipe Ø | Length of sedimentation path |
|---|---|---|
| SediPipe level 400/6 | DN 400 | |
| SediPipe level 500/6 | DN 500 | |
| SediPipe level 500/12 | DN 500 | |
| SediPipe level 600/6 | DN 600 | |
| SediPipe level 600/12 | DN 600 | |

6 m 12 m 18 m 24 m

**Description**
SediPipe basic systems have been designed to directly connect to Rigofill inspect. This makes SediPipe basic an integrated component of the Rigofill system.

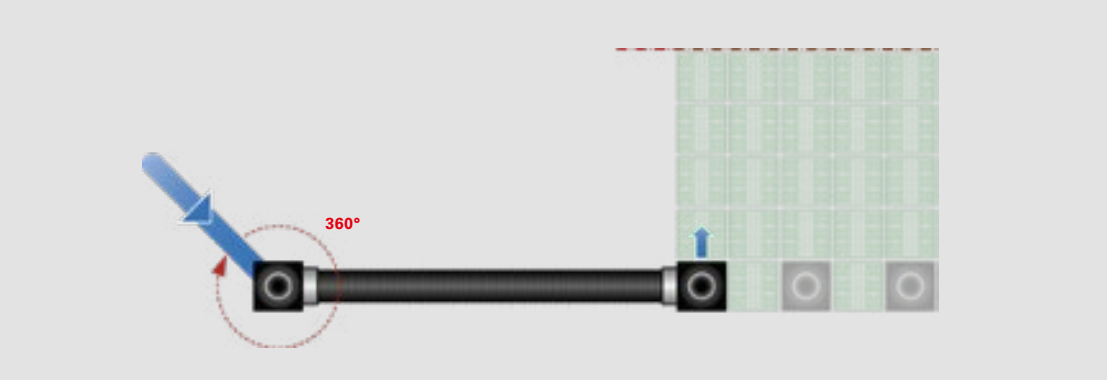
**Application**
Treatment of polluted stormwater runoff with direct connection to Rigofill inspect storage/infiltration systems without pipe connection. SediPipe basic also retains light liquids in dry weather.

**Flow direction**
straight, right, left

**Connectable area**
up to 23,350 m²

# Installation examples 2

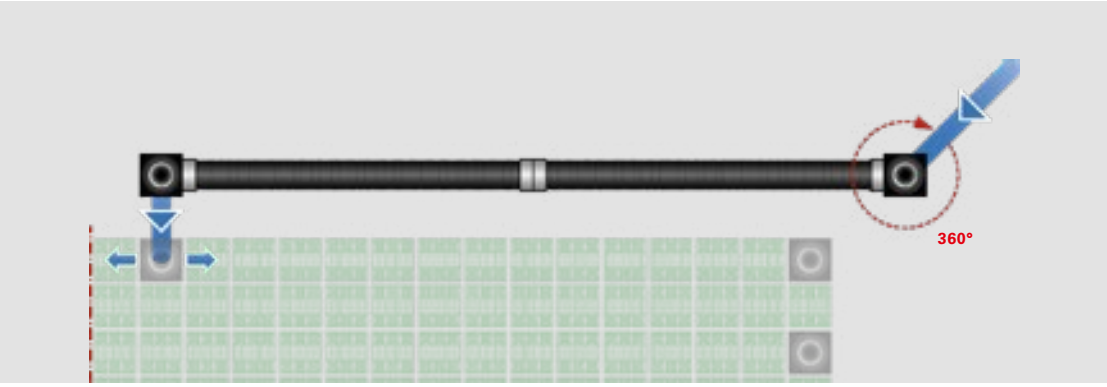
## SediPipe basic with direct connection to the storage/infiltration system




**Integrated connection**

SediPipe basic, 90° left-hand outlet (integrated design)

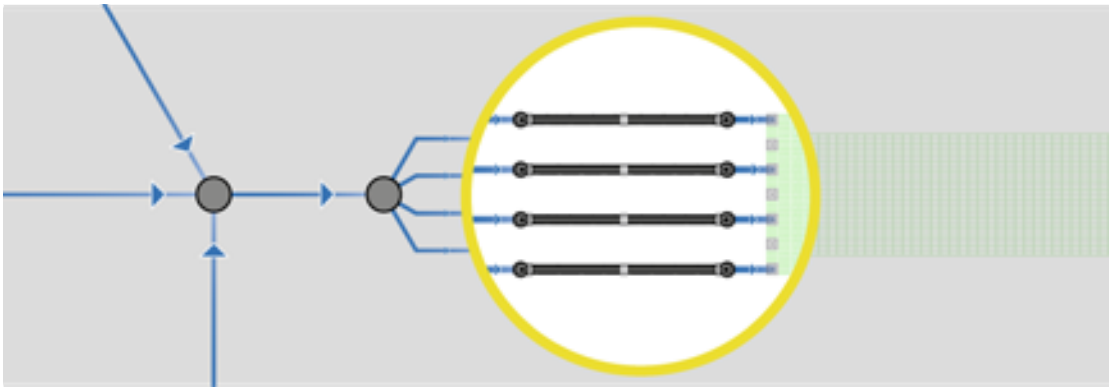
## SediPipe level upstream of or parallel to a storage/infiltration system




**Minimised construction field**

SediPipe level, 90° left-hand outlet (non-integrated design)

## SediPipe XL parallel arrangement

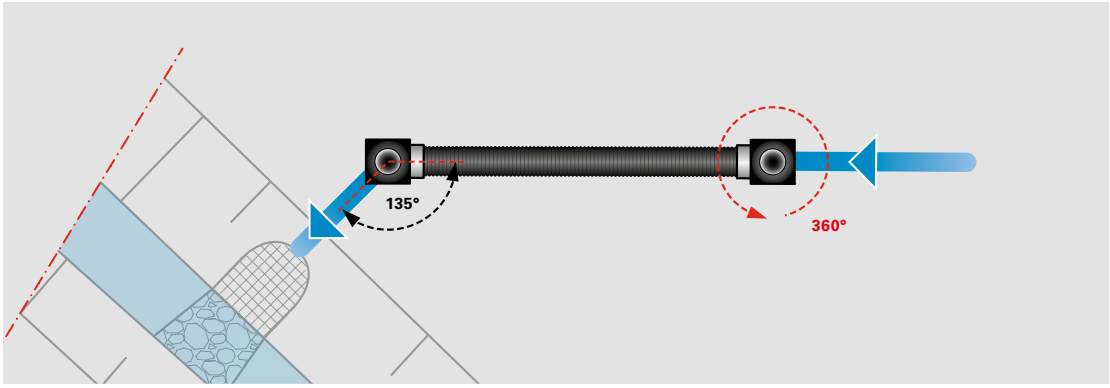


**Very large collection areas thanks to parallel arrangement**

SediPipe XL parallel arrangement, treatment prior to discharge into a storage/infiltration system

# Installation examples 2

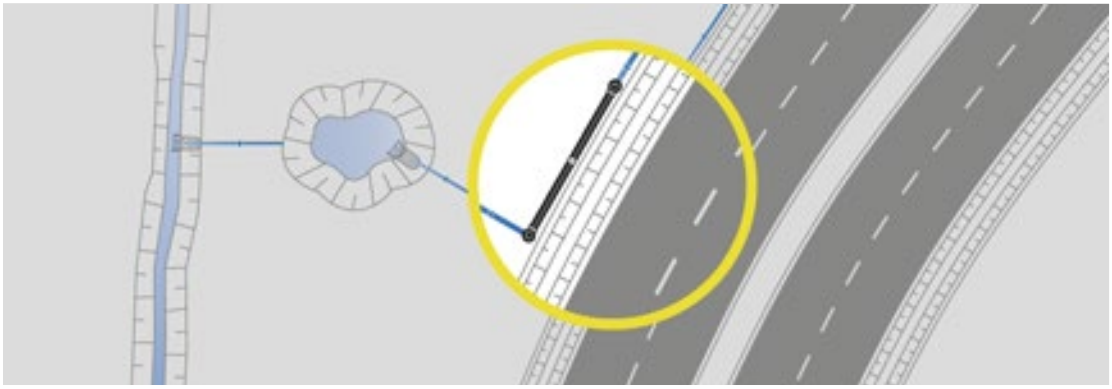
## SediPipe level upstream of discharge into a surface waterbody




**Free angles**

SediPipe level, 135° left-hand outlet

## SediPipe XL for new construction of road drainage

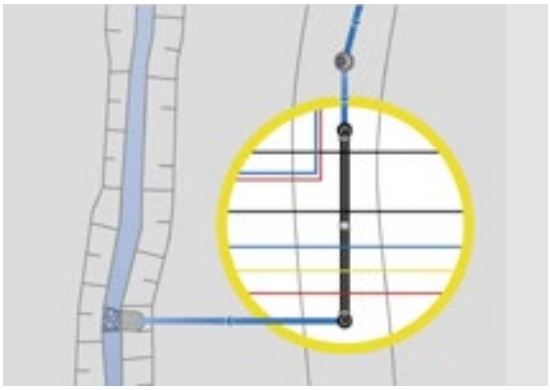


**Space-saving**

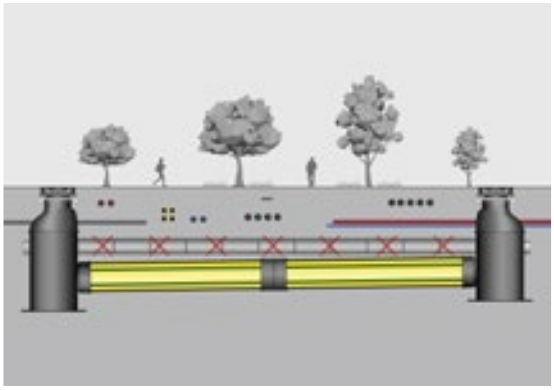
**Roadside installation**

SediPipe XL, decentralised, space-saving, roadside installation upstream of discharge into a surface waterbody

## SediPipe XL integration into an existing stormwater sewer



SediPipe XL, integrated into an existing stormwater sewer

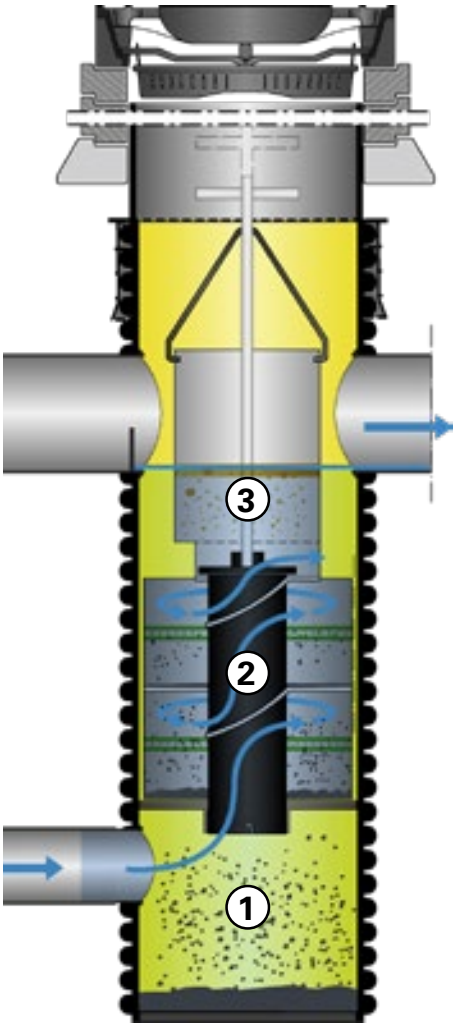


SediPipe XL, integrated into an existing stormwater sewer

**Space-saving on the existing channel route**

**Installation under existing lines**

# SediPoint – sedimentation shaft (functional principle) 2




## 3 Oil depot

### ... with immersion wall

**Retention of oil**

Immersion wall for floatables and light liquids in case of spills in dry weather.

## 2 Sedimentation collector

### ... with flow separator

**Retention of fine particles**

Settlement of fine particles in depots of the sedimentation collector.

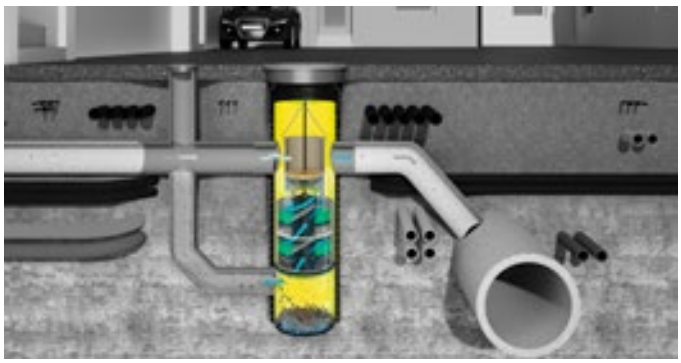
## 1 Mud chamber

**Retention of coarse particles**

Coarse dirt particles in the surface water settle already in the lower area.

## Benefits at a glance

- Very little space required
- SediPipe operating principle and oil retention in case of spills
- Proven treatment performance
- Easy cleaning every two years
- Retrofitting of existing systems
- Installation under trafficked areas
- Cost-effective installation of the plastic shaft
- Reliable network hydraulics with integrated overflow



# SediPoint – perfect solution for confined spaces

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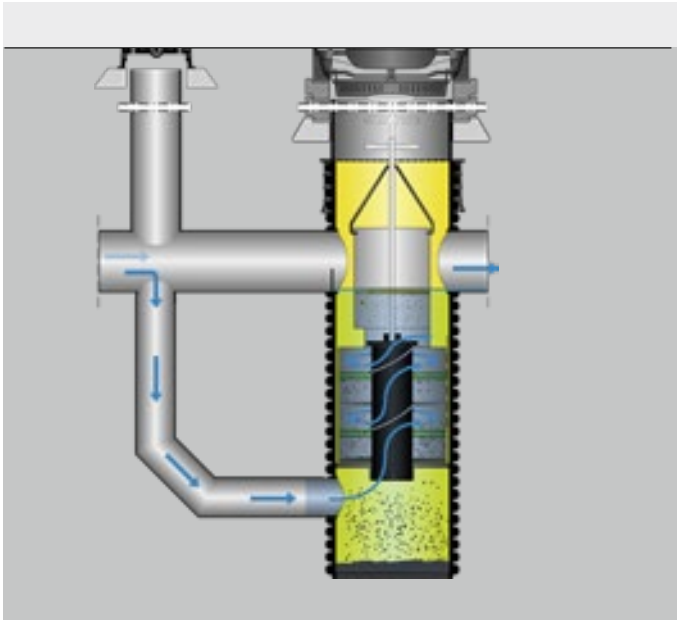
## Product



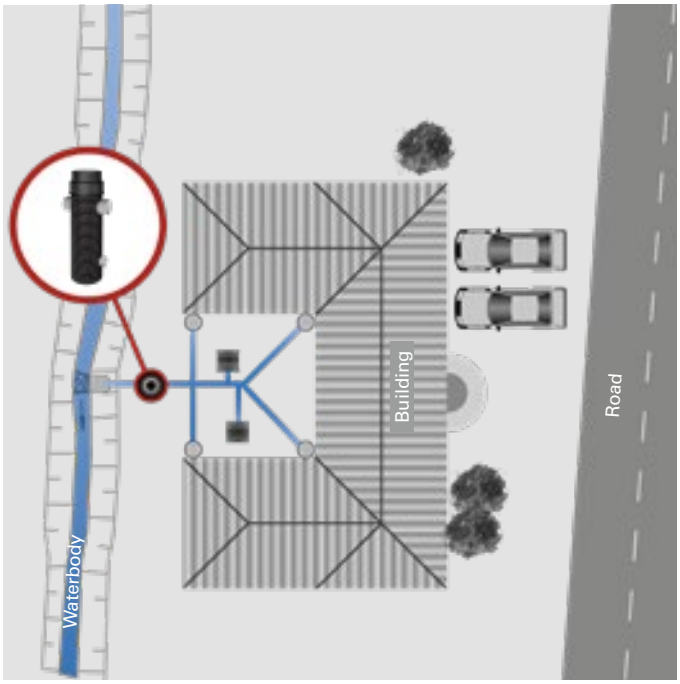
**Description**
FRÄNKISCHE's flow separator technology, tried and tested in stormwater treatment for many years, forms the basis for SediPoint's operating principle in confined spaces.

**Application**
Treatment of polluted stormwater runoff as a sedimentation system and retention of light liquids in case of spills in dry weather. Ideal for new and retrofit installations in existing systems in confined spaces.

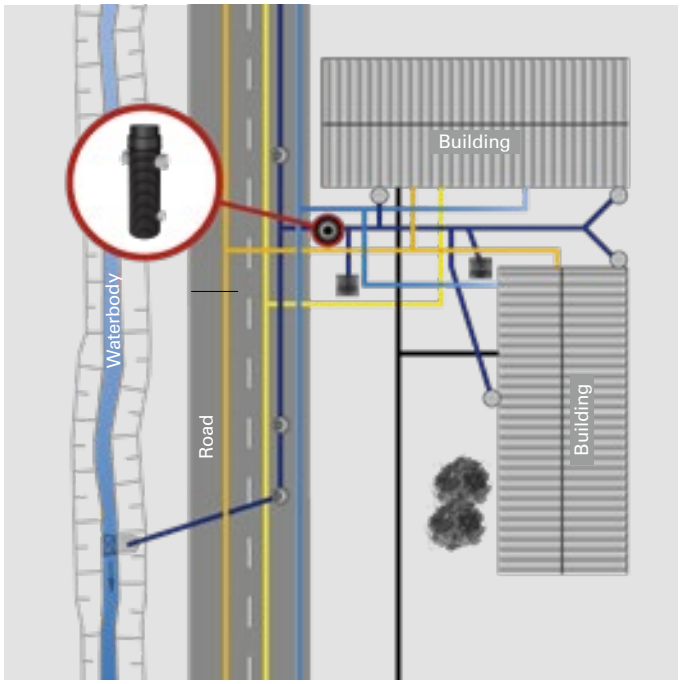
**Connectable area**
up to 3,650 m²

## Example of use

**Confined space: above ground**




**Confined space: below ground**



# 4 tasks – 1 solution


## Stormwater: our competency

Rain falls on roads, squares, roofs, airports, stadiums and many other paved surfaces. Wherever stormwater cannot be treated, stored and discharged naturally, our competencies are needed: **re-establishing the natural water cycle where it has been interrupted and re-channelling water back to natural storage areas - economically, ecologically and wisely**.

We have been working in the fields of **stormwater management, urban drainage, as well as road and track drainage** for more than 30 years. We know today that every task related to stormwater requires integrated, systems thinking.

Our solutions are characterised by:

- 100 % physical, functional and systematic reliability of all components,
- 100 % compatibility of all components and systems in the functional chain,
- long durability and excellent maintenance-friendliness across all areas of operation.

FRÄNKISCHE


We provide a full service, i.e. all system components including all steps before or after construction can be provided from a single source, if necessary.

On the one hand, this makes project realisation highly efficient and, on the other hand, this guarantees an efficient system maintenance. In this context, we focus on protecting our customers' investments.

All our drainage systems always meet the four fundamental tasks in handling stormwater:

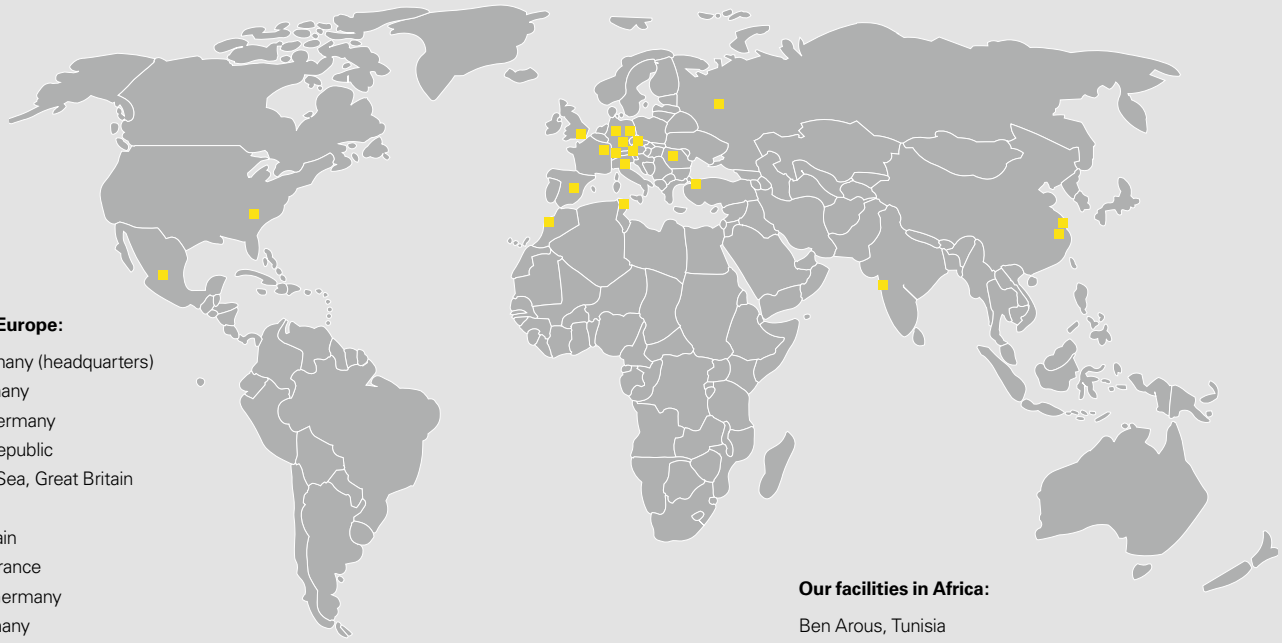
- Transport
- Treatment
- Storage
- Discharge

Depending on the project-specific framework conditions, we combine our well-matched product components to create a complete system, thus providing an integrated system solution to your drainage needs. Our focus is on meeting all requirements under public law in accordance with the needs of the operators. Finally, the natural water cycle is re-established.

FRÄNKISCHE

# Rooted in Königsberg –

# globally successful!



**Our facilities in Europe:**

Königsberg, Germany (headquarters)
Bückeburg, Germany
Schwarzheide, Germany
Okříšky, Czech Republic
St.-Leonards-on-Sea, Great Britain
Moscow, Russia
Yeles/Toledo, Spain
Torcy-le-Grand, France
Ebersbach/Fils, Germany
Hermsdorf, Germany
Mönchaltorf, Switzerland
Milan, Italy
Istanbul, Turkey
Cluj, Romania
Wels, Austria

**Our facilities in Asia:**

Anting/Shanghai, China
Hangzhou, China
Pune, India

**Our facilities in Africa:**

Ben Arous, Tunisia
Casablanca, Morocco

**Our facilities in North America and Mexico:**

Anderson, 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 processing, 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.



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