

Treating stormwater

Handling polluted stormwater

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TRANSPORT

2

TREATMENT

3

STORAGE

4

DISCHARGE

TRANSPORT

1

TREATMENT

2

4 CHALLENGES – 1 SOLUTION

3

STORAGE

4

DISCHARGE

2

Treating stormwater

Treatment systems for polluted stormwater

- **RigoClean** - cleaning shaft
 - **SediPoint** - sedimentation shaft
 - **SediPipe** - sedimentation systems
 - **SediSubstrator** - sedimentation systems with substrate steps
-

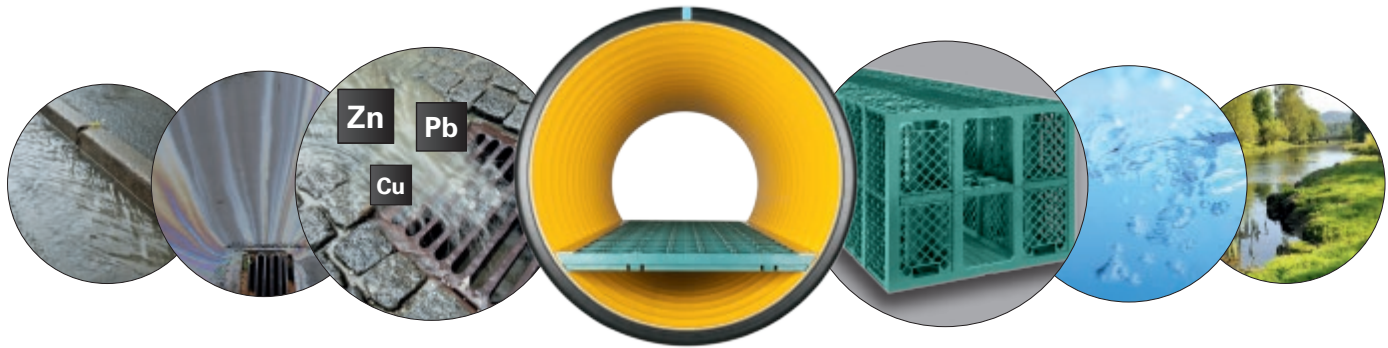
A close-up photograph of a metal storm drain grate set into a concrete surface. The grate is heavily clogged with a thick layer of organic debris, including dry leaves, twigs, and small branches. The metal of the grate is dark and appears weathered. In the center of the image, the text "WHY DO YOU HAVE TO TREAT STORMWATER?" is overlaid in a bold, yellow, sans-serif font. The background shows the rough texture of the concrete pavement.

**WHY DO YOU HAVE TO
TREAT STORMWATER?**

For clean waterbodies and to protect the storage/infiltration system **2**

Our various system concepts remove dirt and pollutants from road traffic or emissions from industrial facilities. Depending on the type and degree of pollution, we offer underground treatment systems which do not

affect the use of space and ensure a systematic elimination of pollutants. The retention of coarse and fine particles also maintains the functionality of downstream storage/infiltration systems.



Dirt and pollutants in stormwater

Treatment, e.g. using SediPipe

Clean water for the storage/infiltration system and waterbodies



Determining the degree of pollution

2

System type	Working principle	Pollution	Application	Max. area
RigoClean	filtering	■ ■ ■ moderate		up to 1,000 m ²
SediPoint	sedimentation	■ ■ ■ heavy		up to 3,650 m ²
SediPipe	sedimentation	■ ■ ■ heavy		up to 44,450 m ²
SediPipe XL plus	sedimentation and oil separation	■ ■ ■ heavy		up to 44,450 m ²
SediSubstrator	sedimentation and adsorption	■ ■ ■ very heavy		up to 3,000 m ²

METHODS FOR THE TREATMENT OF POLLUTED STORMWATER

Filtering

RigoClean

Sedimentation

SediPoint | SediPipe basic | SediPipe level | SediPipe XL

Sedimentation + oil separation

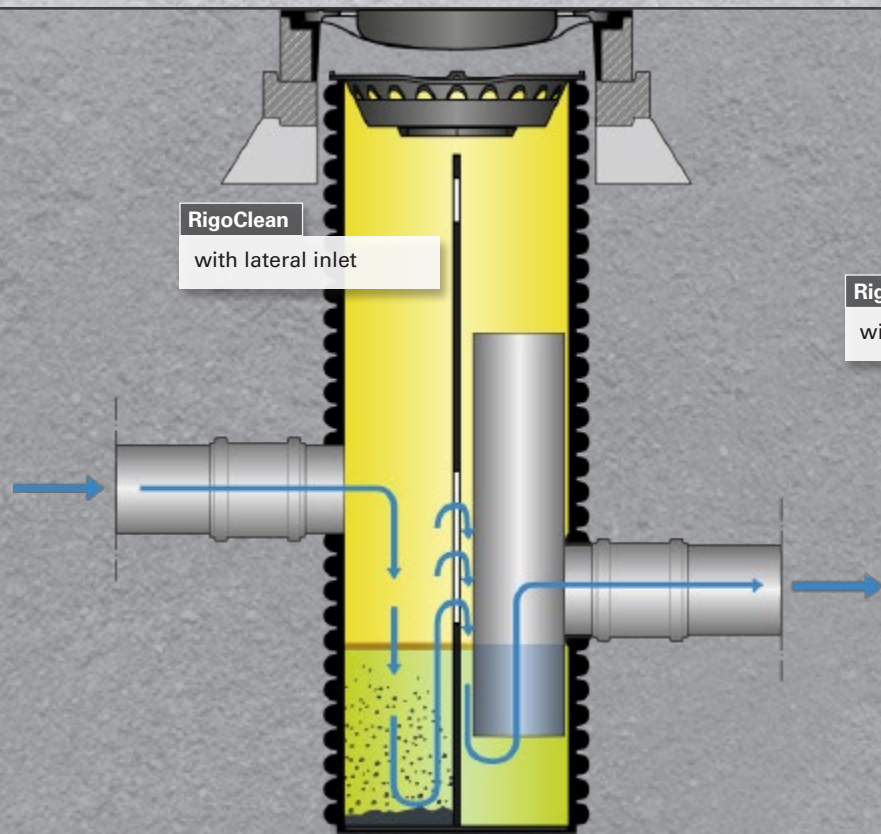
SediPipe XL plus

Sedimentation + adsorption

SediSubstrator basic | SediSubstrator XL

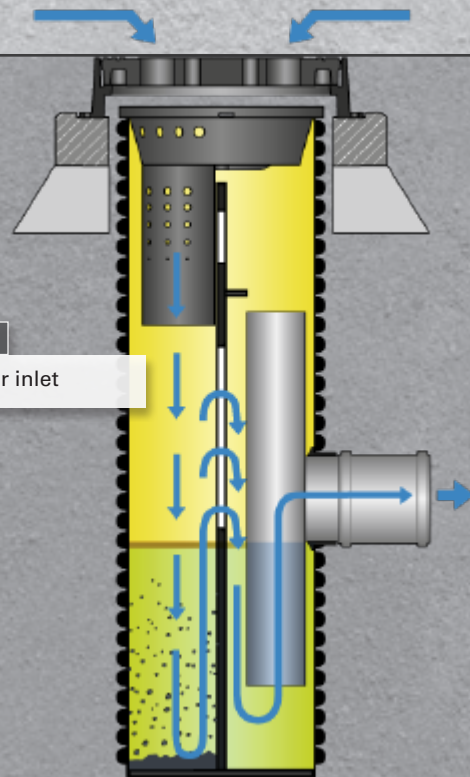
RigoClean

with lateral inlet



RigoClean

with upper inlet



With removable strainer

The RigoClean treatment shaft retains coarse dirt and fine particles and thus guarantees the functionality of the storage/infiltration system. In addition, it retains floatables and light liquids.

RigoClean with upper inlet

also fulfils the purpose of a road gully. The dirt hopper retains coarse dirt and admits the water into the first chamber.

RigoClean with lateral inlet

is connected directly upstream to the system. It is fed through conventional road gullies, gullies in courtyards or from rooftops.

Application

RigoClean is suitable for infiltration of rooftop runoff or unpolluted runoff from paved surfaces. RigoClean can also be used as a pretreatment upstream of SediPipe or SediSubstrator.

System types

RigoClean 500 with lateral inlet
RigoClean 1000 with lateral inlet
RigoClean 500 with upper inlet

Degree of pollution

moderate



Application

e.g.
school yards



Working principle

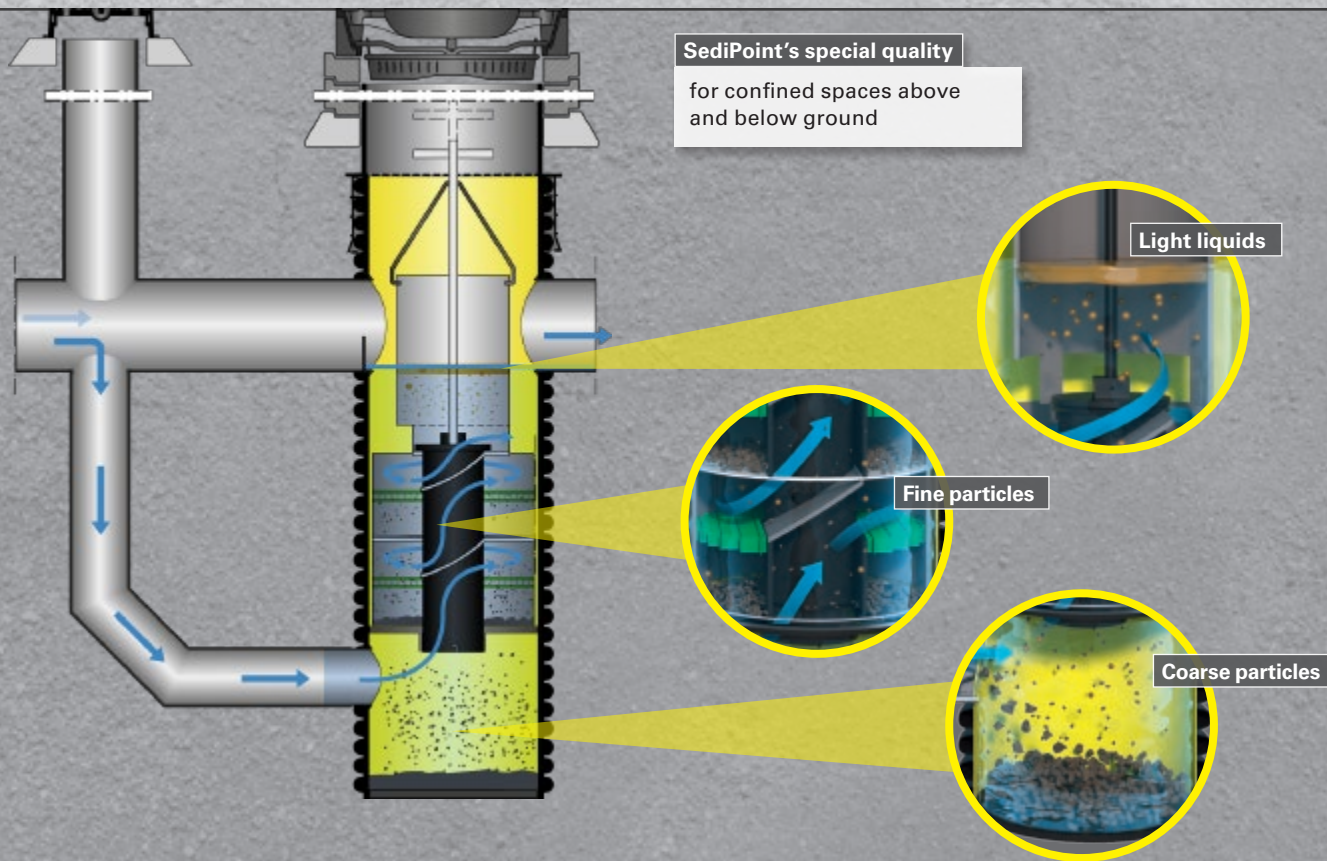
filtering



Max. area

up to 1,000 m²





Perfect for confined spaces

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: The sedimentation collector spirals the water counterclockwise up from the inlet. Fine particles sink to the sediment depot in the areas with little water movement below the two patented flow separators. Light particles that are carried in the water, e.g. oil, rise upwards where the immersion pipe reliably retains them in the system in case of spills in dry weather. The integrated bypass protects the sewer network from flooding during heavy rain and safeguards network hydraulics.

Application

As type D25, D24 and D21 sedimentation system according to DWA M 153 bulletin for the treatment of polluted stormwater runoff and for the retention of light liquids in case of spills in dry weather. Ideal for new and retrofit installations in existing systems in confined spaces.

System types

SediPoint DN 600

NB

The independent testing institute TÜV Rheinland LGA Products GmbH confirms the high treatment performance of SediPoint according to the approval requirements of the German Institute for Building Technology (*Deutsches Institut für Bautechnik, DIBt*) relating to filtered substances (suspended solids).

Degree of pollution

heavy



Application

e.g. trafficked areas with confined spaces



Working principle

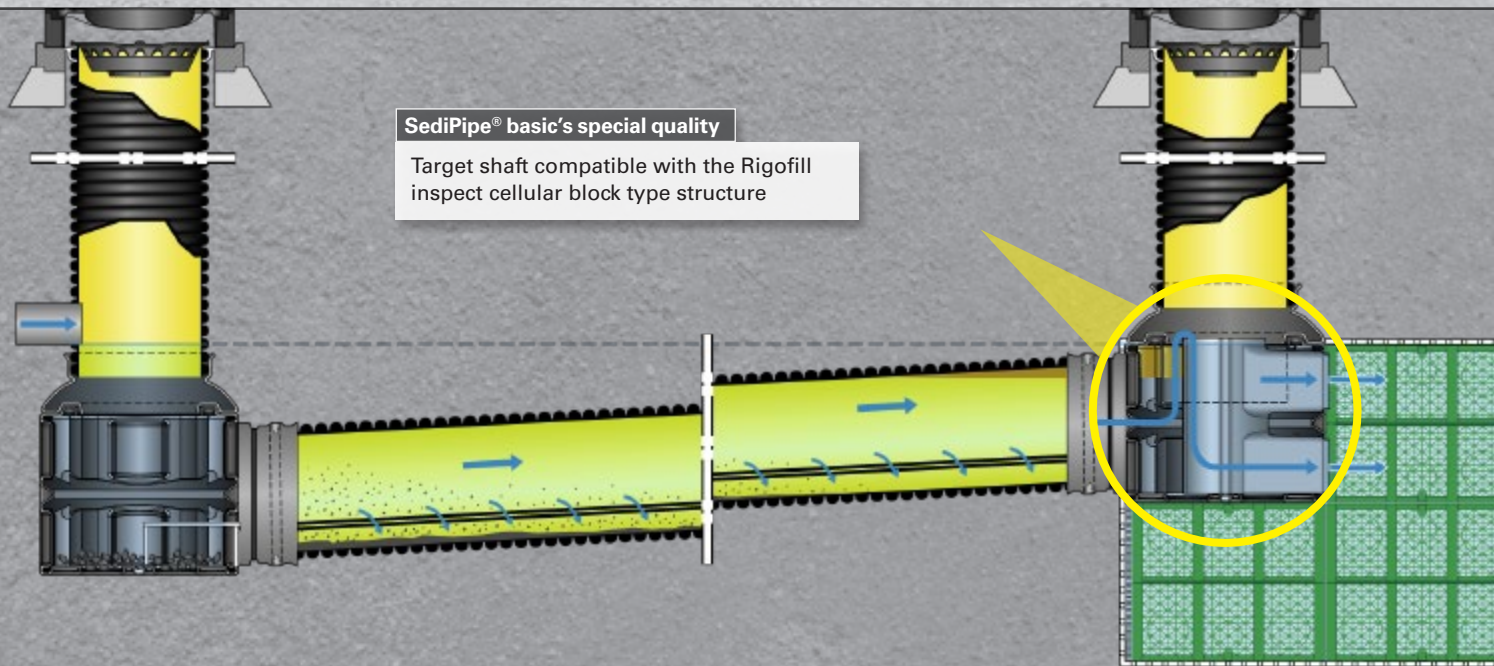
sedimentation



Max. area

up to 3,650 m²





SediPipe® basic's special quality

Target shaft compatible with the Rigofill
inspect cellular block type structure

Compatible with Rigofill inspect

SediPipe basic systems have been designed to directly connect to Rigofill inspect. This makes SediPipe basic an integrated component of the Rigofill system. The inlet at the start shaft is 360 degrees rotatable. The inlet diameter can be selected from DN 200 to DN 300. The outlet of the target shaft is tailored to connect to the inspection tunnel of Rigofill inspect. The flow direction of the target shaft – straight, right hand, left hand – is chosen such that it will match the direction of the inspection tunnel.

Application

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

System types

SediPipe basic 400/6
SediPipe basic 500/6
SediPipe basic 600/6
SediPipe basic 500/12
SediPipe basic 600/12

PROOF OF EQUALITY

of decentralised stormwater treatment systems as compared to stormwater sedimentation tanks in North Rhine-Westphalia (LANUV list)

Degree of pollution

heavy



Application

e.g. building and industrial areas



Working principle

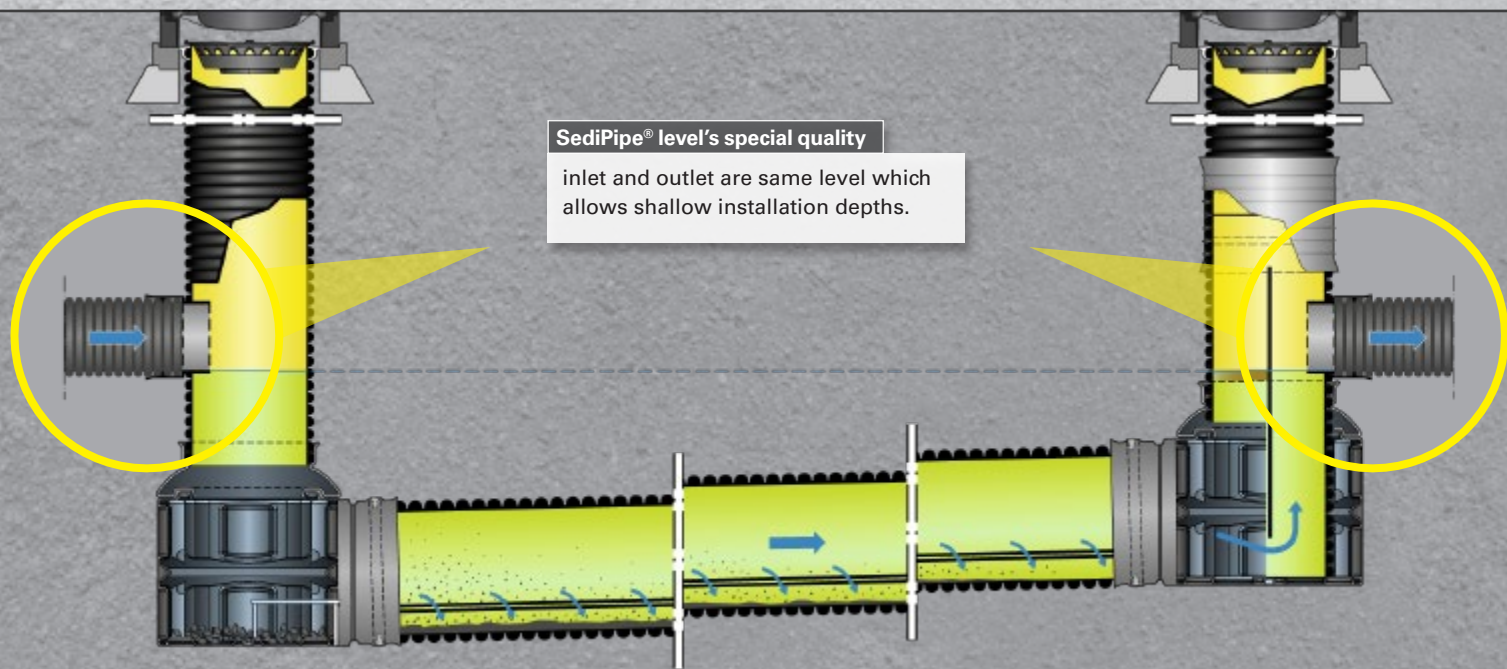
sedimentation



Max. area

up to 23,350 m²





SediPipe® level's special quality

inlet and outlet are same level which
allows shallow installation depths.

With universal connection and without height loss

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. SediPipe level can be used universally for a wide range of purposes:

- discharge into a surface waterbody or sewer
- installation upstream of or parallel to a SickuPipe pipe swale
- installation upstream of or parallel to a Rigofill storage/infiltration system (non-integrated design)

Application

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

System types

SediPipe level 400/6
SediPipe level 500/6
SediPipe level 600/6
SediPipe level 500/12
SediPipe level 600/12

PROOF OF EQUALITY

of decentralised stormwater treatment systems as compared to stormwater sedimentation tanks in North Rhine-Westphalia (LANUV list)

Degree of pollution

heavy



Application

e.g. building and industrial areas



Working principle

sedimentation



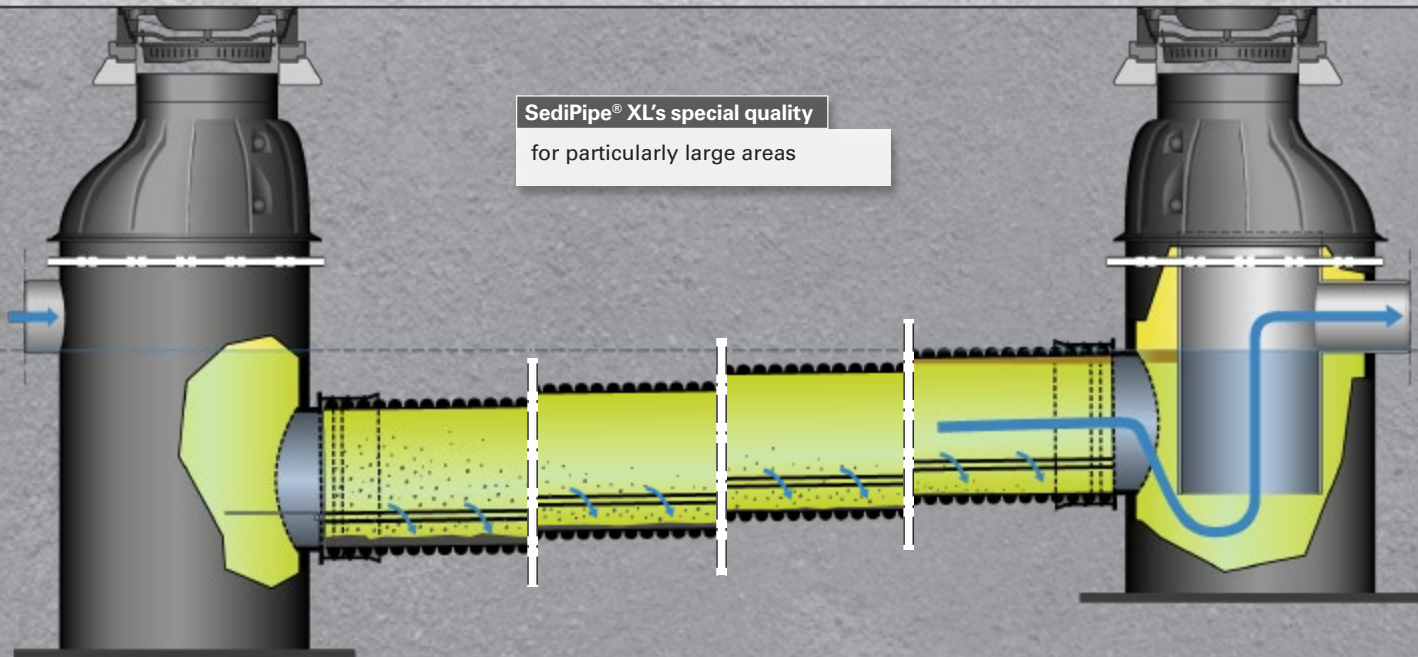
Max. area

up to 23,350 m²



SediPipe® XL's special quality

for particularly large areas



The revolution for the stormwater sewer

SediPipe XL has been specifically designed for large connectable areas where SediPipe level is not sufficient any more. The large storage volume and installation entirely below ground makes SediPipe XL the most effective replacement for conventional stormwater sedimentation tanks.

Application

Treatment of polluted stormwater runoff from large connectable areas and retention of light liquids in case of spills in dry weather.

System types

SediPipe XL 600/6
SediPipe XL 600/12
SediPipe XL 600/18
SediPipe XL 600/24



SediPipe XL 600/12 has been awarded the "IKT-geprüft gem. Trennerlass" certificate of the IKT Institute for Underground Infrastructure (*Institut für Unterirdische Infrastruktur GmbH*) in Gelsenkirchen.

PROOF OF EQUALITY

of decentralised stormwater treatment systems as compared to stormwater sedimentation tanks in North Rhine-Westphalia (LANUV list)

Degree of pollution

heavy



Application

e.g. large building and industrial areas



Working principle

sedimentation



Max. area

up to 44,450 m²



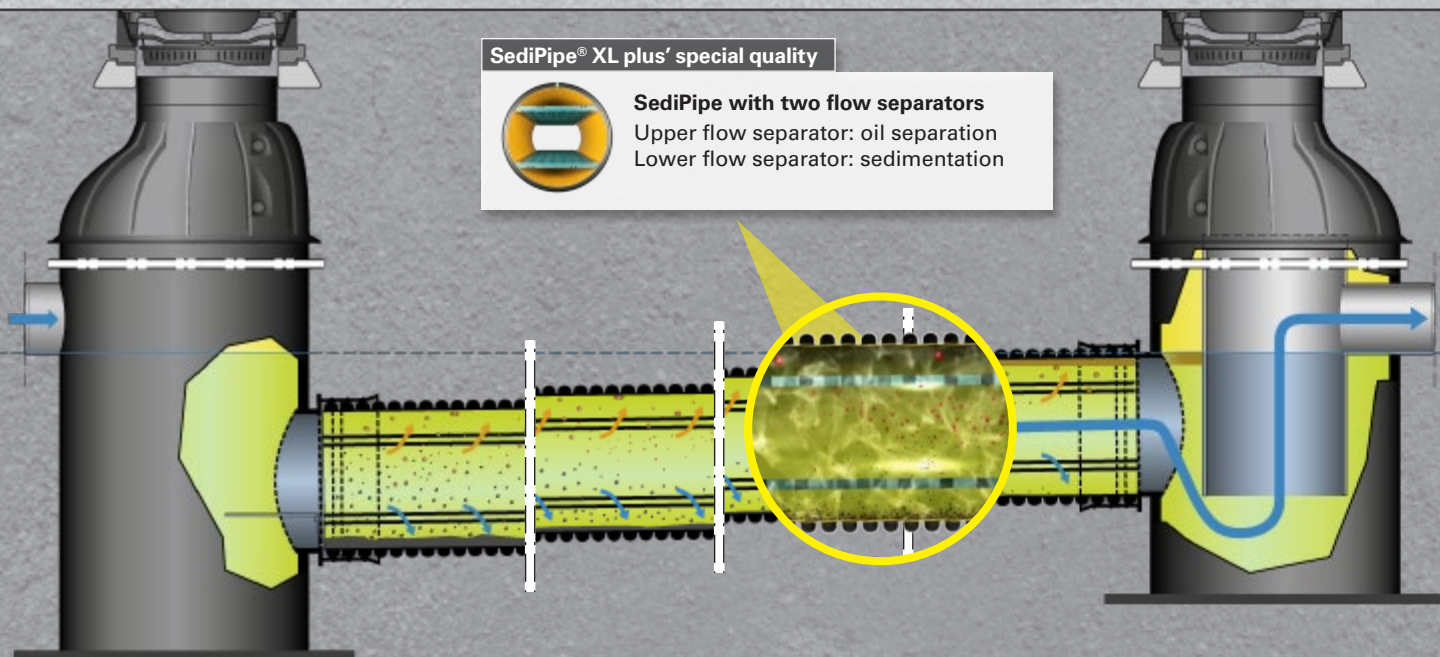
SediPipe® XL plus' special quality



SediPipe with two flow separators

Upper flow separator: oil separation

Lower flow separator: sedimentation



Stormwater treatment and oil separation

SediPipe XL plus has been equipped with a second upper flow separator for oil separation.

The patented technology allows the system to perfectly imitate the function of an oil separator. This way, the system guarantees preventive water protection in case of oil spills also during heavy rain.

NB

SediPipe XL plus systems are no oil separators according to DIN EN 858-1 and may not be used for applications provided therein! SediPipe XL plus systems have been exclusively designed for prevention in case of spills! Retention of light liquids during rain tested by the TÜV-Rheinland LGA Products GmbH.

Application

Treatment of polluted stormwater runoff from large connectable areas and retention of light liquids in case of spills in dry weather and during rain.

System types

SediPipe XL plus 600/6
SediPipe XL plus 600/12
SediPipe XL plus 600/18
SediPipe XL plus 600/24

Degree of pollution

heavy



Application

e.g. highly frequented roads and industrial areas



Working principle

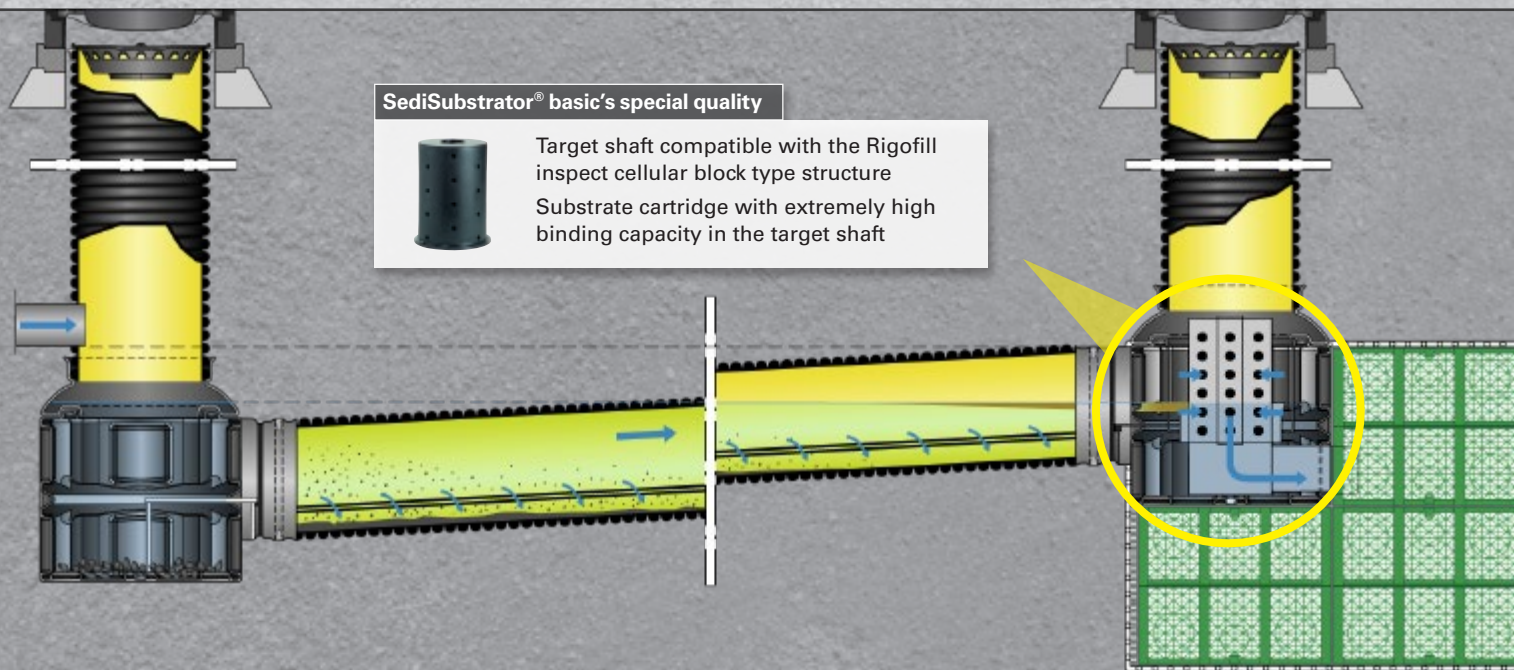
sedimentation
oil separation



Max. area

up to 44,450 m²





Compatible with Rigofill inspect

SediSubstrator basic systems have been designed to directly connect to Rigofill inspect. This makes SediSubstrator basic an integrated component of the Rigofill storage/infiltration system.

Substrate cartridge with SediSorp adsorption substrate characterised by extremely high binding capacity.

Application

Treatment of very heavily polluted stormwater runoff from trafficked areas upstream of subsoil infiltration, and retention of light liquids in dry weather.

System types

SediSubstrator basic 400/6
SediSubstrator basic 500/6
SediSubstrator basic 500/12

Degree of pollution

very heavy



Application

e.g.
motorway
stations



Working principle

sedimentation
adsorption



Max. area

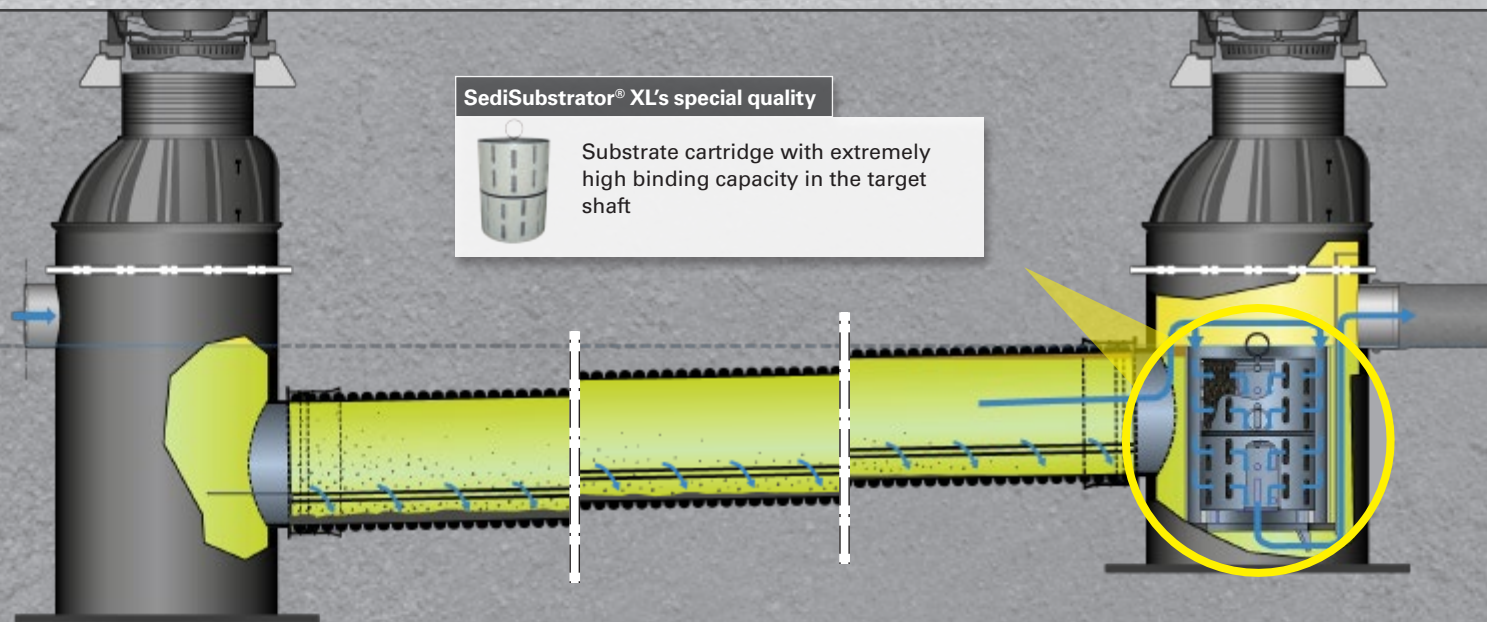
up to 940 m²



SediSubstrator® XL's special quality



Substrate cartridge with extremely high binding capacity in the target shaft



Stormwater treatment according to DIBt standard

SediSubstrator XL systems have been designed according to the approval requirements of the German Institute for Building Technology (*Deutsches Institut für Bautechnik, DIBt*). They are used to treat heavily polluted stormwater runoff from trafficked areas. The treatment performance allows for downstream infiltration of stormwater.

Substrate cartridge with SediSorp adsorption substrate characterised by extremely high binding capacity. SediSorp is quality-monitored and has been awarded the DIBt compliance label (Ü mark of conformity) of the DIBt for use in SediSubstrator XL 600/12 and 600/12+12.

Application

Treatment of extremely polluted stormwater runoff from trafficked areas upstream of subsoil infiltration, and retention of light liquids in dry weather.

System types

SediSubstrator XL 600/12
SediSubstrator XL 600/18
SediSubstrator XL 600/24
SediSubstrator XL 600/12+12



Degree of pollution

very heavy



Application

e.g. stop-and-go areas, highly frequented parking lots



Working principle

sedimentation
adsorption



Max. area

up to 3,000 m²



Our services

Any task related to handling stormwater presents individual challenges. Framework conditions of individual projects vary significantly.

We have many years of practical experience with all aspects of design and construction of drainage systems.

We provide local technical assistance during all project phases. We design complete systems, dimension the system components using state-of-the-art technology and help you realise your construction project.

In addition to construction companies and design engineers, our consulting services are particularly interesting for builders / project developers who want to sustainably protect their investment by economic and durable solutions.

Of course, we also provide you with:

- comprehensive information
- CAD templates
- tender documents
- installation and maintenance manuals
- structural analyses
- software
- project questionnaires
- local workshops and training programmes

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Documents and software

Stormwater competence

In addition to basic knowledge and planning support for stormwater management, the manual also presents new and advanced products and systems. Anyone interested can get detailed information about diversity and details.

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Rigo®Plan professional dimensioning software

RigoPlan professional can be used to design different types of systems, such as infiltration systems, retention basins with overflow control and stormwater treatment systems.

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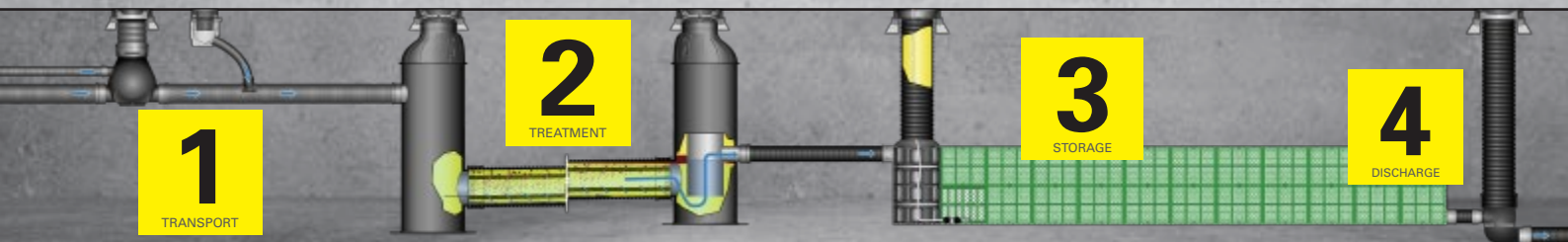
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Stormwater management



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