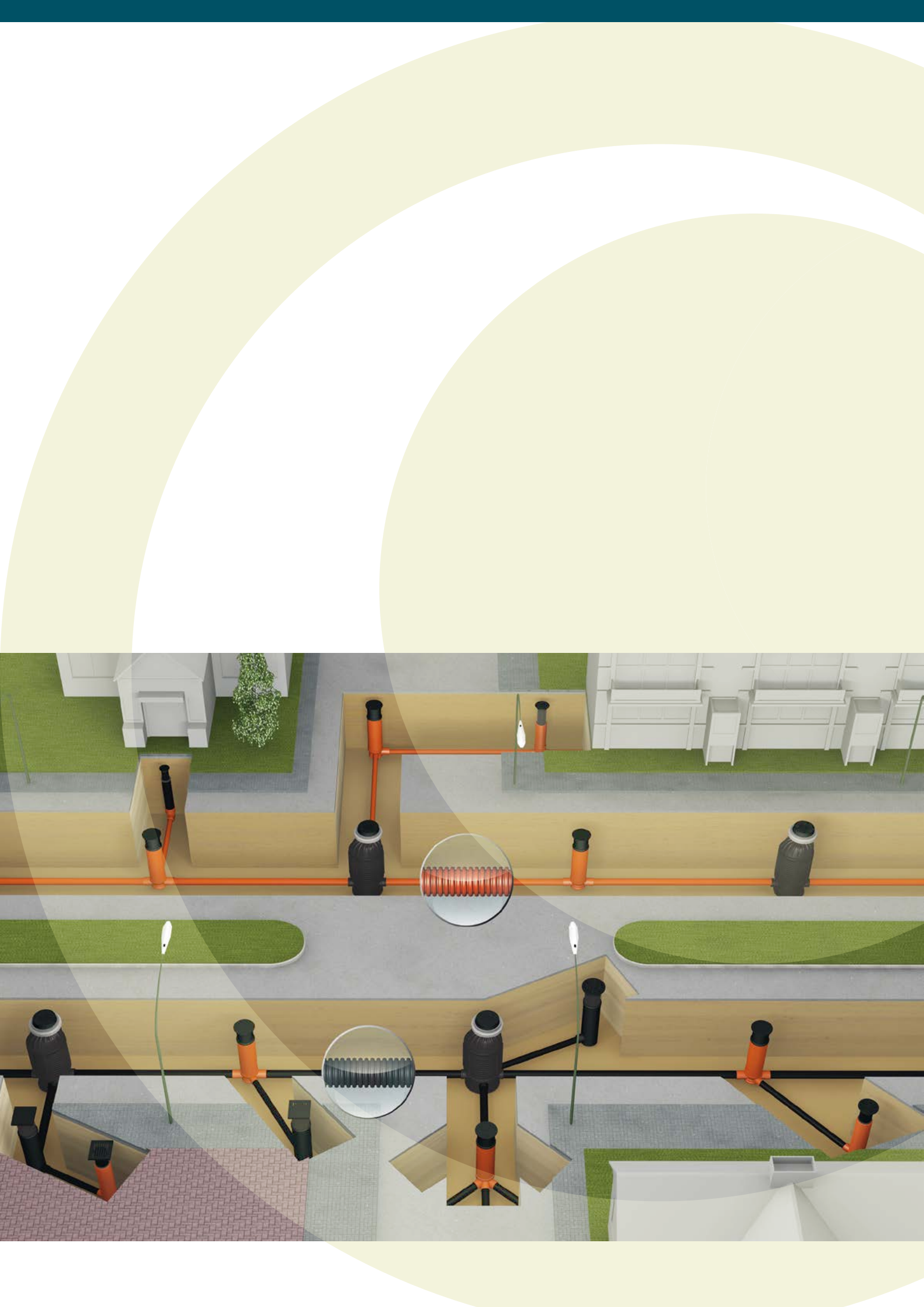


2014



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The range of all **EVOPIPES** product groups is focused on increasing the efficiency of the work and costs of clients, as well as reduction of operation costs during the service period of products. By making investments in the installation of pipe systems, costs for the material account only for 4–20% of the total investment, depending on project-specific issues, thus quality and long service life of pipe systems is of special importance. The quality and constructive structure of pipes and manholes, as well as the operation costs thereof are the main parameters that should be taken into consideration by the owner of the piping system.

Therefore **EVOPIPES** has developed a safe and efficient pipe and manhole system **EVOSAN, EVOSAN-RF** and **EVORAIN**, which consists of pipes, manholes, gullies and all necessary fittings for the construction of high-quality stormwater drainage and utility sewerage systems.

The slogan of **EVOSAN, EVOSAN-RF** and **EVORAIN** piping systems is well-grounded – **increase your efficiency!**

Product range:

EVOPIPES offers to its clients innovative products for electrical installations, cable protection, construction of stormwater drainage and utility sewerage systems, drainage systems, as well as construction of water supply and gas supply infrastructure systems.

Innovations:

EVOPIPES in collaboration with Riga Technical University Institute of Polymer Materials and Institute of Heating, Gas and Water Technologies, as well as in co-operation with clients is regularly improving the existent products and constantly develops new solutions focused on sustainability and efficiency in the operation thereof.





EVOSAN, EVOSAN-RF utility wastewater gravity sewerage system and EVORAIN stormwater gravity drainage system



Along with the development of SIA EVOPIPES and compilation of the needs of clients and the set forth requirements, an improved (reinforced) EVOSAN-RF pipe was produced.

Compared to EVOSAN pipe, not only the thickness of the corrugated outer walls of EVOSAN-RF was increased, but the design of the inner smooth wall was changed as well.

- Compared to standard EVOSAN pipes, thickness of the inner layer of EVOSAN-RF pipes with diameter from DN/OD 110 mm up to 250 mm has been increased even up to 50%;
- Compared to standard EVOSAN pipes, thickness of the inner layer of EVOSAN-RF pipes with diameter from DN/OD 250 mm up to 315 mm has been increased even up to 30%;

EVOSAN-RF pipe according to its indicators corresponds to installation class SN16 (ring stiffness SN16 kN/m²). Owing to SN16 class, EVOSAN-RF pipe may be used for installation works in zones/places with large traffic loads (under tram/train lines, docks, aviation covers, etc.), places with limits of installation below 0.7 m or above 5 m and bad ground (see Table 4 and Table 5 in Chapter 5).

EVOSAN-RF* is high-quality PP SN16 and EVOSAN, EVORAIN are high-quality PP SN8 corrugated double-wall type B pipes with excellent usage and functional properties. Good flow of stormwater and reliability of pipeline network system are therefore guaranteed.

EVOSAN, EVOSAN-RF and **EVORAIN** are complete and innovative systems of utility sewerage and stormwater drainage pipeline networks. **EVOSAN, EVOSAN-RF** and **EVORAIN** pipe system elements and manhole systems correspond the highest quality requirements and norms for utility sewerage and stormwater drainage systems. These systems are recommended for use in gravity piping systems. **EVOSAN, EVOSAN-RF** and **EVORAIN** corrugated double-wall pipes are intended for long-term use under normal load.

* - abbreviation RF stands for REINFORCED



EVOSAN, EVOSAN-RF utility wastewater gravity sewerage system and EVORAIN stormwater gravity drainage system

Constructive advantages and characterisation of EVOSAN, EVOSAN-RF and EVORAIN corrugated double-wall PP type B pipe systems.

EVOSAN, EVOSAN-RF and **EVORAIN** pipe design corresponds to the requirements set forth for type B constructions described in Chapter 5.1 of EN 13476-3 product standard. The design of the pipe consists of two layers with structured outer and smooth inner layer surface from PP material. The external side is corrugated and the profile properties guarantee high mechanical strength and impact resistance parameters. Smooth internal walls of the pipes ensure excellent hydraulic properties required for the pressure-free (natural gravity) systems. **EVOSAN, EVOSAN-RF** and **EVORAIN** pipes, couplings and rubber sealing rings have been designed to ensure a stable, dense and hermetic connection.

EVOSAN, EVOSAN-RF and **EVORAIN** pipes are flexible and preserve water tightness even in the most problematic soil conditions. They are resistant to deformation when installed under roads with heavy load. Due to their special structural properties, the pipes are lighter and at the same time stronger than conventional smooth-wall pipes. Transportation, installation and exploitation of the corrugated pipelines is more economically beneficial and efficient compared to smooth-wall pipes.

Nominal diameter (DN) dimensions of **EVOSAN, EVOSAN-RF** and **EVORAIN** piping and fittings are specified in accordance with the dimensions of the outer diameter of the product (OD) (DN = OD).

Fittings of **EVOSAN, EVOSAN-RF** and **EVORAIN** pipes:

- **EVOSAN, EVOSAN-RF** and **EVORAIN** double-wall type B pipes and manholes are produced in the following diameter range: DN/OD 110, 160, 200, 250, 315, 400, 500 mm.

EVOSAN, EVOSAN-RF and **EVORAIN** pipes are made of polypropylene (PP), which ensures high modulus of elasticity (*Young*) and ring stiffness SN 8 kN/m², whereas EVOSAN-RF pipes ensure ring stiffness SN 16 kN/m² in the nominal class in accordance with the standard requirements set forth in EN 13476-3. Ring stiffness is determined according to an inspection method elaborated by EN ISO 9969 standard.

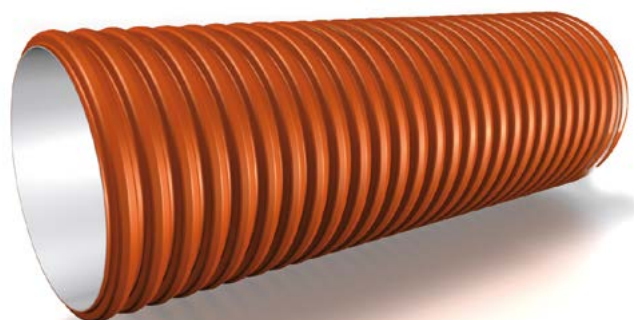
PP materials have:

- excellent long-term strength properties;
- high resistance to corrosion;
- perfect resistance to abrasion;
- chemical and biological inertness;
- polypropylene (PP) is an environmentally friendly material (100% recyclable).

At one end **EVOSAN, EVOSAN-RF** and **EVORAIN** pipe is equipped with welded on solid PP coupling, but at the other end — a rubber sealing ring is installed (placed) in the first full groove of the corrugation. Tolerance between the pipe and the coupling is adjusted to ensure:

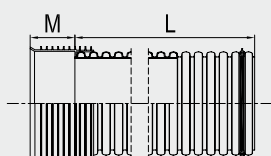
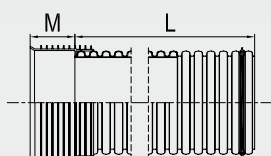
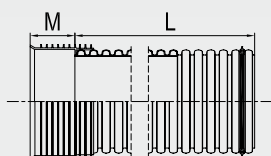
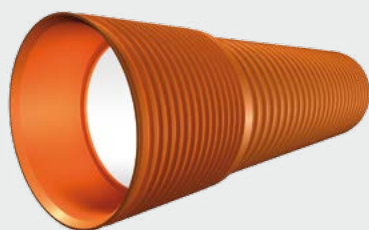
- easier installation;
- complete pipelines water tightness;
- uniform strength of the connection and the pipe.

The system is equipped with a new type sealing ring ensuring higher pipeline running parameters. Pipes are available in three-metre and six-metre pieces (other lengths upon request). Standard colour of the outer side of the utility sewerage is reddish brown (EVOSAN) and of stormwater pipes — black (EVORAIN), but reinforced sewerage pipes are dark brown (EVOSAN-RF). The inside of all pipes is white for better visibility during CCTV control thereby facilitating determination of defects within sewerage networks. Use of PP in EVOSAN, EVOSAN-RF and EVORAIN pipes and special design thereof allow high-pressure rinsing of the pipelines.





EVOSAN, EVOSAN-RF utility wastewater gravity sewerage system and EVORAIN stormwater gravity drainage system



EVOSAN PP corrugated type B pipe with built-in solid PP production coupling and rubber sealing ring

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN/OD [mm]	ID [mm]	M [mm]	L [m]	in packaging, [pcs.]	Code
110	93,8	59	3/6	30	21111000(3/6)
160	138,9	85	3/6	28	21116000(3/6)
200	174,6	88,6	3/6	32	21120000(3/6)
250	215,9	94,5	3/6	8	21125000(3/6)
315	274,1	108	3/6	6	21131500(3/6)
400	349,8	136,5	3/6	3	21140000(3/6)
500	439,6	188	3/6	2	21150000(3/6)

EVOSAN-RF (REINFORCED) corrugated type B pipe with built-in solid PP production coupling and rubber sealing ring

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN/OD [mm]	ID [mm]	M [mm]	L [m]	in packaging, [pcs.]	Code
110	93,8	59	6	30	211110006RF
160	138,9	85	6	28	211160006RF
200	174,6	88,6	6	32	211200006RF
250	215,9	94,5	6	8	211250006RF
315	274,1	108	6	6	211315006RF

EVORAIN PP corrugated type B pipe with built-in solid PP production coupling and rubber sealing ring

In accordance with the requirements of EN 13476-3 standard

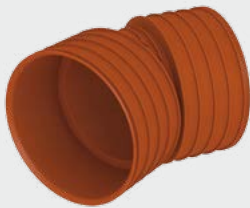
Installation class SN8 [kN/m²]

DN/OD [mm]	ID [mm]	M [mm]	L [m]	in packaging, [pcs.]	Code
110	93,8	59	6	30	221110006
160	138,9	85	6	28	221160006
200	174,6	88,6	6	32	221200006
250	215,9	94,5	6	8	221250006
315	274,1	108	6	6	221315006
400	349,8	136,5	6	3	221400006
500	439,6	188	6	2	221500006

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage fittings and accessories



Elbow

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN/OD [mm]	Lençikis [°]	in packaging, [pcs.]	Code
110	15	1	2120111015
	30	1	2120111030
	45	1	2120111045
	90	1	2120111090
160	15	12	2120116015
	30	8	2120116030
	45	8	2120116045
	90	1	2120116090
200	15	6	2120120015
	30	5	2120120030
	45	4	2120120045
	90	4	2120120090
250	15	1	2120125015
	30	1	2120125030
	45	1	2120125045
	90	1	2120125090
315	15	1	2120131515
	30	1	2120131530
	45	1	2120131545
	90	1	2120131590
400	15	1	2120140015
	30	1	2120140030
	45	1	2120140045
	90	1	2120140090
500	15	1	2120150015
	30	1	2120150030
	45	1	2120150045
	90	1	2120150090



Tee 45°

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN/OD / DN/OD, [mm]	in packaging, [pcs.]	Code
110 / 110	1	212021100
160 / 160	4	212021600
200 / 200	1	212022000
250 / 250	1	212022500
315 / 315	1	212023150
400 / 400	1	212024000
500 / 500	1	212025000



Tee 90°

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN/OD / DN/OD, [mm]	in packaging, [pcs.]	Code
110 / 110	1	212041100
160 / 160	10	212041600
200 / 200	8	212042000
250 / 250	1	212042500
315 / 315	1	212043150
400 / 400	1	212044000
500 / 500	1	212045000

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage fittings and accessories



Reduction tee 45°

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN/OD / DN/OD [mm]		in packaging, [pcs.]	Code
160	110	5	21203160110
200	110	1	21203200110
	160	1	21203200160
250	110	1	21203250110
	160	1	21203250160
	200	1	21203250200
315	110	1	21203315110
	160	1	21203315160
	200	1	21203315200
	250	1	21203315250
400	110	1	21203400110
	160	1	21203400160
	200	1	21203400200
	250	1	21203400250
	315	1	21203400315
500	110	1	21203500110
	160	1	21203500160
	200	1	21203500200
	250	1	21203500250
	315	1	21203500315
	400	1	21203500400

Reduction tee 45° with transition to PVC smooth-wall pipe

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN/OD / DN/OD [mm]		in packaging, [pcs.]	Code
200	110	1	21217200110
	160	1	21217200160
	200	1	21217200200
250	110	1	21217250110
	160	1	21217250160
	200	1	21217250200
315	110	1	21217315110
	160	1	21217315160
	200	1	21217315200
400	110	1	21217400110
	160	1	21217400160

Double-coupling (intended for use with sealing rings in both ends of the pipe)

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN [mm]	ID [mm]	L [mm]	in packaging, [pcs.]	Code
110	110,8	120	15	212051100
160	160,8	174	10	212051600
200	201,1	181,8	8	212052000
250	252,8	194	1	212052500
315	318,5	222,3	1	212053150
400	404,5	279,9	1	212054000
500	506,5	370	1	212055000

DN - size of nominal double-coupling, [mm]; ID - inner double-coupling diameter, [mm]; L - total length of double-coupling, [mm].

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage fittings and accessories



Sleeve fitting (intended for use with sealing rings in both ends of the pipe)

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN [mm]	ID [mm]	L [mm]	in packaging, [pcs.]	Code
110	110,8	120	1	212081100
160	160,8	174	1	212081600
200	201,1	181,8	1	212082000
250	252,8	194	1	212082500
315	318,5	222,3	1	212083150
400	404,5	279,9	1	212084000
500	506,5	370	1	212085000

DN - size of nominal double-coupling, [mm]; **ID** - inner double-coupling diameter, [mm]; **L** - total length of double-coupling, [mm].



Protection fitting (intended for use with sealing rings in both ends of the pipe)

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN [mm]	ID [mm]	L [mm]	in packaging, [pcs.]	Code
110	110,8	120	1	212111100
160	160,8	174	1	212111600
200	201,1	181,8	1	212112000
250	252,8	194	1	212112500
315	318,5	222,3	1	212113150
400	404,5	279,9	1	212114000
500	506,5	370	1	212115000

DN - size of nominal double-coupling, [mm]; **ID** - inner double-coupling diameter, [mm]; **L** - total length of double-coupling, [mm].

Note: Intended for installation in reinforced concrete wells and crossings of reinforced concrete constructions of buildings. In order to facilitate adhesion during the construction process, the surface of protection fitting has been covered with fine-grained sand-gravel mixture overlay.

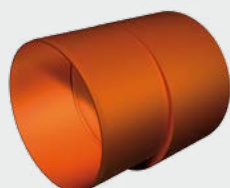


Reduction transition with two rubber sealing rings (outside/inside)

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN/OD / DN/OD [mm]	in packaging, [pcs.]	Code
160 110	1	21207160110
200 110	1	21207200110
200 160	1	21207200160
250 200	1	21207250200
350 200	1	21207315200
350 250	1	21207315250
400 250	1	21207400250
400 315	1	21207400315
500 400	1	21207500400



Transition from PP corrugated double-wall pipe to PVC smooth-wall pipe (outside/inside)

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN/OD PP / DN/OD PVC, [mm]	in packaging, [pcs.]	Code
110 110	1	212091100
160 160	1	212091600
200 200	1	212092000
250 250	1	212092500
315 315	1	212093150
400 400	1	212094000
500 500	1	212095000

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage fittings and accessories



Sleeve plug with rubber sealing ring

[smooth sleeve plugs are available upon request]

In accordance with the requirements of EN 13476-3 standard

Installation class SN8 [kN/m²]

DN [mm]	in packaging, [pcs.]	Code
110	20	212061100
160	18	212061600
200	16	212062000
250	1	212062500
315	1	212063150
400	1	212064000
500	1	212065000

DN - nominal size, [mm].



Rubber sealing ring (according to use corresponds to WCL type)

In accordance with the requirements of EN 13476-3 standard

DN [mm]	in packaging, [pcs.]	Code
110	1	212101100
160	1	212101600
200	1	212102000
250	1	212102500
315	1	212103150
400	1	212104000
500	1	212105000

DN - nominal size, [mm].



Lubricant for sealing elements

Silicone-based lubricant, frost resistant, neutral (pH level — approximately 7), creamy consistency, white and odour free. The lubricant facilitates assembly of pipes, prevents misfitting and damaging of rubber sealing ring and rubber sealing ring damages in the connection. Does not lose its properties also in wet environment. It prevents ageing of rubber sealing ring. It has very good adherence properties even in wet conditions.

Information	in packaging, [pcs.]	Code
Lubricant, SUPER GLIDEX, 1.0 kg	1	62112SG10

Instructions for the use of lubricant:

Clean the connection from dirt, for instance, sand, mould and mud. Evenly cover the inside of the coupling around the ring/perimeter. Use a brush for smearing of the lubricant.

Storage

It is recommended to store the lubricant at the temperature of 50° C at a place that is not subjected to direct sunlight.



Warning tape

The tape from LDPE material must be interred in land about 20-40 cm from the gravity sewerage pipelines in order to prevent accidental damaging thereof. It is possible to order the product with a printing "Attention, gravity sewerage!" or other information.

Length [m]	Width [mm]	Thickness [mm]	Colour	Code
250	100	0,15	Yellow	21213100250Ylp



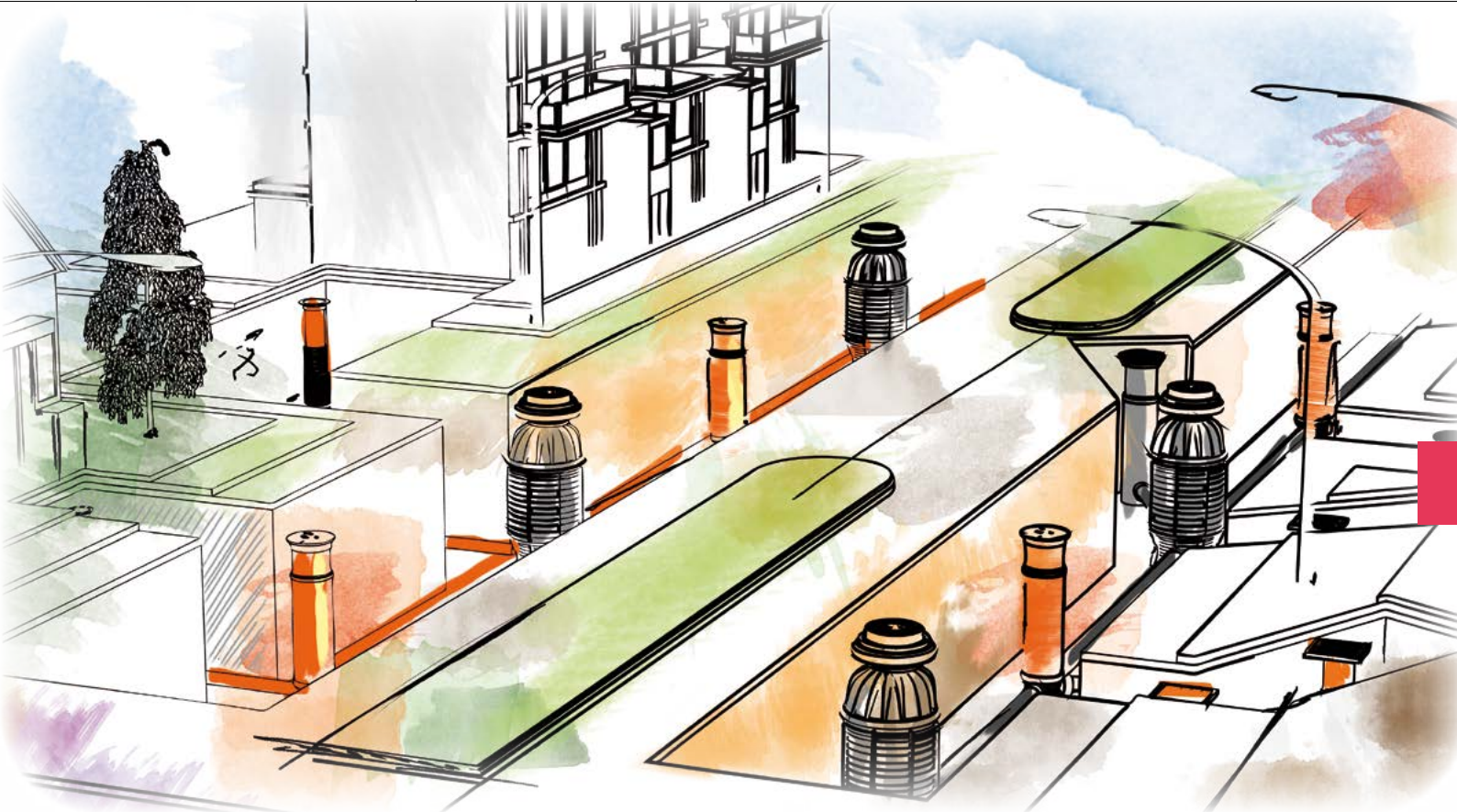
EVOSAN, EVOSAN-RF and EVORAIN pipeline connection device

	Device	Scope			
		DN/OD 250	DN/OD 315	DN/OD 400	DN/OD 500
Code	212180000	212182500	212183150	212184000	212185000

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage system chambers and gullies with sediment trap



INCREASE YOUR EFFICIENCY

Effective investment, instead of expensive exploitation!

Reasons why you should choose polymer well system:

- Excellent long-term endurance and service indicators — long service life (>50 years);
- Polymer well weight is $\leq 5\%$ from the weight of reinforced concrete, economy on mechanism costs at the construction site and labour force cost economy during installation;
- High flexibility level — reaction against any soil movement — NO CRACKS;
- Polymer wells are resistant against disintegration problems of materials caused by black frost and freezing;
- 100% water-tightness, groundwater infiltration in the sewerage system — 0%, which leads to lower purification system exploitation costs;
- No corrosion, also the stairs of wells have been made of reinforced PP;
- Low flow resistance, well water flume $> 100\%$ from pipe diameter;
- Chemical and biological inertness, from pH 2 up to pH 12 (pH 2 — acidic environment and pH 12 — alkaline environment);
- Broad range of fittings, quick installation;
- The casing of wells is not directly linked with the hatch of wells — dynamic load and impacts do not affect the well — high-quality road cover during the operation period;
- Environmentally friendly material — 100% recyclable;
- Short installation period — greater work productivity;
- Efficient total costs.



Gravity sewerage system chambers and gullies with sediment trap

Flow-through utility sewerage manholes CSR 200/160 consisting of folding elements

Technical information/specification

The flow-through utility sewerage manhole CSR (chamber sanitary revision) with diameter of DN 200 mm and access hole of DN 160 mm consists of folding elements.

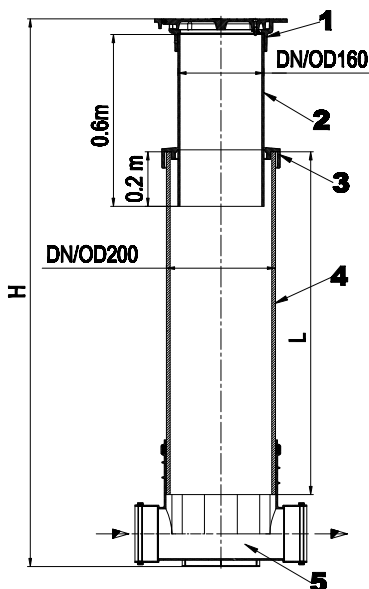
Limits of installation

Minimum depth: 0.7 m; maximum depth: 2.0 m

Application area

Recommended for use in construction of utility sewerage networks in the outgoing line for small private house courtyards. The manhole serves for inspection and control of utility sewerage, and for clearing works in case of blocking of utility sewerage lines.

Flow-through manhole CSR 200/160 consists of the following elements:



Key:

- 1 – Cast iron frame and cover, round, DN 160 mm, installation class D400 (40 t);
- 2 – Solid telescopic PE smooth-wall pipe DN/OD 160 mm, height: 0.6 m;
- 3 – Rubber cuff DN 200/160 mm;
- 4 – Height-adjustment solid PE smooth-wall well/pipe DN/OD 200 mm;
- 5 – Manhole CRS DN 200 mm base (one ingoing and one outgoing line);
- L – Height of height-adjustment well/pipe;
- H – Total height of chamber.

Possible configuration of base

Base	Possible connection of sewerage pipe to base		
	Outer DN/OD, [mm] of the sewer pipe		
CSR DN 200 mm	110	160	200

Material

- PP bases of flow-through manhole CRS DN 200 mm correspond to the requirements of EN 13598-2 and EN 476 standards.
- Height-adjustment solid PE smooth-wall well/pipe DN/OD 200 mm corresponds to the requirements of EN 12201-2 and EN 14802 standards;
- Rubber cuff DN 200/160 mm corresponds to the requirements of EN 681-1 and EN 1277 standards;
- Solid telescopic PE smooth-wall pipe DN/OD 160 mm, height 0.6 mm, corresponds to the requirements of EN 12201-2 and EN 14802 standards;
- Cast iron frame and cover, DN 160 mm, installation class D400 (40 t) corresponds to the requirements of EN 124 standard.

Advantages of the well

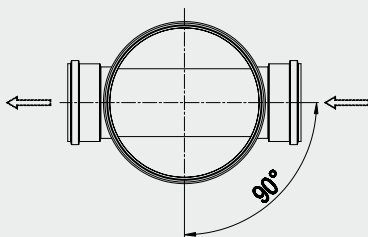
- Minimum proportion of elements in the system;
- Shorter construction period;
- Long service life (>50 years);
- Flexible for movements in soil (no cracking of the well);
- Water-tightness > 0.5 bar, watertight materials;
- Resistant to aggressive environment. No corrosion;
- Flexible connection to well +/- 3.5°.

Chemical resistance

Subject to ISO/TR 10358 and ISO/TR 7620, elements of the plastic well, as well as rubber sealing elements (rubber sealing rings and cuffs) are chemically resistant in pH 2 (acidic environment) and pH 12 (alkaline environment).



Gravity sewerage system chambers and gullies with sediment trap



Flow-through utility sewerage manhole CSR 200/160 consisting of folding elements

Depth for installing flow-through utility sewerage manhole CSR 200/160: minimum 0.7 m and maximum 5.0 m.

Cast iron frame and cover, round, DN 160 mm, installation class D400 (40 t) with solid telescopic PE smooth-wall pipe DN/OD 160 mm, height 0.6 m and rubber cuff DN 200/160 mm

Name	Information	Code
1	Cast iron frame and cover, round, DN 160 mm	6210816040
2	Solid telescopic PE smooth-wall pipe DN/OD 160 mm, height 0.6 m	62102160260
3	Rubber cuff DN 200/160 mm	62109160/200

Frame and cover corresponds to the requirements of EN 124 standard.

Solid telescopic PE smooth-wall pipe correspond to the requirements of EN 12201-2 and EN 14802 standards.

Rubber cuff corresponds to the requirements of EN 681-1 and EN 1277 standards.

Height-adjustment solid PE smooth-wall well/pipe DN/OD 200 mm

Name	Information	Code
4	Height-adjustment solid PE smooth-wall well/pipe DN/OD 200 mm	62102200135

Height-adjustment solid telescopic PE smooth-wall pipe corresponds to the requirements of EN 12201-2 and EN 14802 standards.

Possible configuration of flow-through manhole CSR DN 200 mm base

Name	Connection DN/OD, [mm]	Code
5	110	621031200/110
	160	621031200/160
	200	621031200/200

Bases of flow-through manhole correspond to the requirements of EN 13598-2 and EN 476 standards.

Flexible connection to well +/- 3.5°

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage system chambers and gullies with sediment trap

Flow-through utility and stormwater sewerage chamber CSS 400/315 consisting of folding elements

Technical information/specification

The flow-through utility and stormwater sewerage chamber CSS (chamber sanitary straight) with diameter of DN 400 mm and access hole of DN 315 mm consists of folding elements.

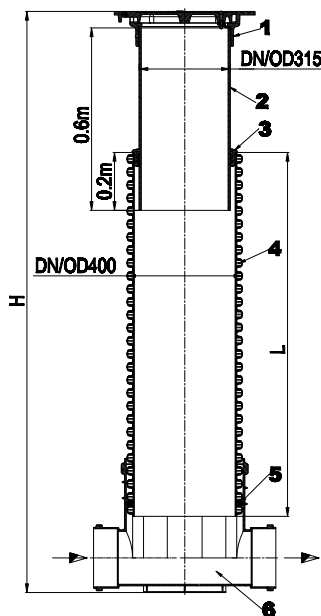
Limits of installation

Minimum depth: 1.0 m; maximum depth: 5.0 m

Application area

Recommended for use in construction of stormwater and utility sewerage networks in private house yards and courtyards, as well as courtyards of multi-storey dwellings. The manhole serves for control of stormwater and utility sewerage, and for clearing works in case of blocking of stormwater and utility sewerage lines.

Flow-through stormwater and utility sewerage chamber CSS 400/315 consists of the following elements:



Key:

- 1 – Cast iron frame and cover, round, DN 315 mm, installation class D400 (40 t);
- 2 – Solid telescopic PE smooth-wall pipe DN/OD 315 mm, height: 0.6 m;
- 3 – Rubber cuff DN 400/315 mm;
- 4 – Height-adjustment corrugated PP double-wall pipe DN/OD 400 mm;
- 5 – Rubber sealing ring DN 400 mm;
- 6 – Flow-through manhole CSS DN 400 mm base (one ingoing and one outgoing line);
- L – Height of height-adjustment pipe;
- H – Total height of chamber.

Possible configuration of base

Base	Possible connection of sewerage pipe to base				
	Outer DN/OD, [mm] of the sewer pipe				
CSS DN 400 mm	160	200	250	315	400

Material

- PP bases of flow-through manhole CSS DN 400 mm correspond to the requirements of EN 13598-2 and EN 476 standards;
- Height-adjustment corrugated PP double-wall well/pipe DN/OD 400 mm corresponds to the requirements of EN 13476-3 and EN 14802 standards;
- Rubber cuff DN 400/315 mm and rubber sealing ring DN 400 mm correspond to the requirements of EN 681-1 and LVS N 1277 standards;
- Solid telescopic PE smooth-wall pipe DN/OD 315 mm, height 0.6 mm, corresponds to the requirements of EN 12201-2 and EN 14802 standards;
- Cast iron frame and cover, DN 315 mm, installation class D400 (40 t) corresponds to the requirements of EN 124 standard.

Advantages of the well

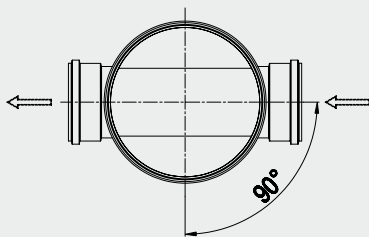
- Long service life (>50 years);
- Flexible for movements in soil (no cracking of the chamber);
- Water-tightness > 0.5 bar, watertight materials;
- Resistant to aggressive environment. No corrosion;
- Flexible connection to well +/- 3.5o;
- The diameter of access hole allows convenient and quick CCTV control and maintenance of sewerage networks.

Chemical resistance

Subject to ISO/TR 10358 and ISO/TR 7620, elements of the plastic well, as well as rubber sealing elements (rubber sealing rings and cuffs) are chemically resistant in pH 2 (acidic environment) and pH 12 (alkaline environment).



Gravity sewerage system chambers and gullies with sediment trap



Flow-through utility and stormwater sewerage chamber CSS 400/315 consisting of folding element

Depth for installing flow-through utility sewerage chamber CSS 400/315: minimum 1 m, maximum 5 m.

Cast iron frame and cover, round, DN 315 mm, installation class D400 (40 t) with solid telescopic PE smooth-wall pipe DN/OD 315 mm, height 0.6 m and rubber cuff DN 400/315 mm

Name	Information	Code
1	Cast iron frame and cover, round, DN 315 mm	6210831540
2	Solid telescopic PE smooth-wall pipe DN/OD 315 mm, height 0.6 m	62102315330
3	Rubber cuff DN 400/315 mm	62109400/315

Frame and cover corresponds to the requirements of EN 124 standard.

Solid telescopic PE smooth-wall pipe correspond to the requirements of EN 12201-2 and EN 14802 standards.

Rubber cuff corresponds to the requirements of EN 681-1 and EN 1277 standards.

Height-adjustment corrugated PP double-wall well/pipe DN/OD 400 mm with rubber sealing ring DN 400 mm

Name	Information	Code
4	Height-adjustment corrugated PP double-wall pipe DN/OD 400 mm	2144001006
	Rubber sealing ring DN 400 mm	212104000

Height-adjustment corrugated PP double-wall well/pipe corresponds to the requirements of EN 13476-3 and EN 14802 standards.

Rubber sealing ring corresponds to the requirements of EN 681-1 and EN 1277 standards

Possible configuration of flow-through manhole CSS DN 400 mm base

Name	Connection DN/OD, [mm]	Code
5	160	621031400/160PP
	200	621031400/200PP
	250	621031400/250PP
	315	621031400/315PP
	400	621031400/400PP

Bases of flow-through manhole correspond to the requirements of EN 13598-2 and EN 476 standards.

Flexible connection to well +/- 3.5°.

Connection/transition to corrugated pipe

Name	DN/OD PP	DN/OD PVC, [mm]	Code
6	110	110	212091100
	160	160	212091600
	200	200	212092000
	250	250	212092500
	315	315	212093150

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures..



Gravity sewerage system chambers and gullies with sediment trap

Utility and stormwater sewerage branch chambers CSB 400/315 consisting of folding elements

Technical information/specification

The stormwater and utility sewerage branch chamber CSB (chamber sanitary bush) with diameter of DN 400 mm and access hole of DN 315 mm consists of folding elements.

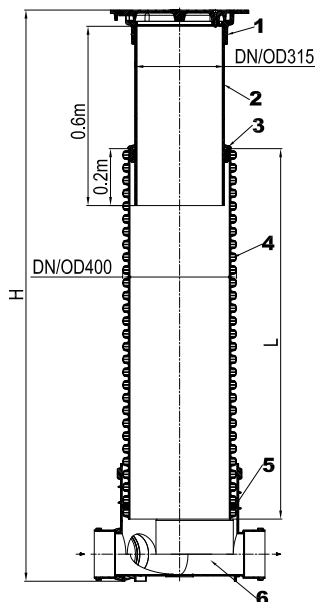
Limits of installation

Minimum depth: 1.0 m; maximum depth: 5.0 m

Application area

Recommended for use in construction of stormwater and utility sewerage network branches in private house yards and courtyards, as well as courtyards of multi-storey dwellings. The branch manhole serves for control of stormwater and utility sewerage, and for clearing works in case of blocking of stormwater and utility sewerage lines.

Branch manhole CSB 400/315 consists of the following elements:



Key:

- 1 – Cast iron frame and cover, round, DN 315 mm, installation class D400 (40 t);
- 2 – Solid telescopic PE smooth-wall pipe DN/OD 315 mm, height 0.6 m;
- 3 – Rubber cuff DN 400/315 mm;
- 4 – Height-adjustment corrugated PP double-wall pipe DN/OD 400 mm;
- 5 – Rubber sealing ring DN 400 mm;
- 6 – Branch manhole CSB DN 400 mm base (three inlets and one outlet);
- L – Height of height-adjustment pipe;
- H – Total height of the well.

Note: Side spouts to CSB DN 400 mm base have been designed in 45 degree angle to the base spout into direction of sewerage water flow.

Possible configuration of base

Base	Possible connection of sewerage pipe to base				
	Outer DN/OD, [mm] of the sewer pipe				
CSB DN 400 mm	110	160	200	250	315

Material

- Basis of branch manhole CSB DN 400 mm PP correspond to the requirements of EN 13598-2 and EN 476;
- Height-adjustment corrugated PP double-wall well/pipe DN/OD 400 mm corresponds to the requirements of EN 13476-3 and EN 14802 standards;
- Rubber cuff DN 400/315 mm and rubber sealing ring DN 400 mm correspond to the requirements of EN 681-1 and LVS N 1277 standards;
- Solid telescopic PE smooth-wall pipe DN/OD 315 mm, height 0.6 mm, corresponds to the requirements of EN 12201-2 and EN 14802 standards;
- Cast iron frame and cover, DN 315 mm, installation class D400 (40 t) corresponds to the requirements of EN 124 standard;

Advantages of the well

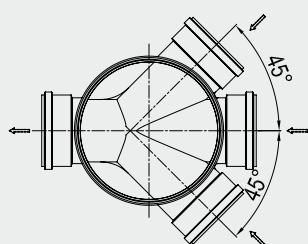
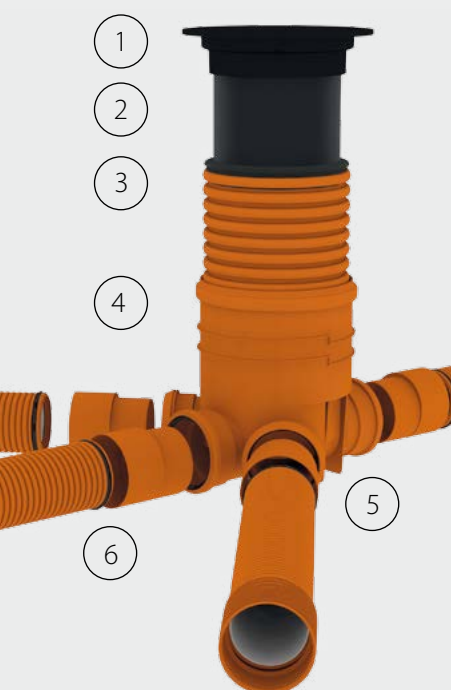
- Long service life (>50 years);
- Flexible for movements in soil (no cracking of the chamber);
- Water-tightness > 0.5 bar, watertight materials;
- Resistant to aggressive environment. No corrosion;
- Flexible connection to well +/- 3.5°;
- The diameter of access hole allows convenient and quick CCTV control and maintenance of sewerage networks.

Chemical resistance

Subject to ISO/TR 10358 and ISO/TR 7620, elements of the plastic well, as well as rubber sealing elements (rubber sealing rings and cuffs) are chemically resistant in pH 2 (acidic environment) and pH 12 (alkaline environment).



Gravity sewerage system chambers and gullies with sediment trap



Utility and stormwater sewerage branch chambers CSB 400/315 consisting of folding elements

Depth for installing flow-through utility sewerage manhole CSS 400/315: minimum 1 m, maximum 5 m.

Cast iron frame and cover, round, DN 315 mm, installation class D400 (40 t) with solid telescopic PE smooth-wall pipe DN/OD 315 mm, height 0.6 m and rubber cuff DN 400/315 mm.

Name	Information	Code
1	Cast iron frame and cover, round, DN 315 mm	6210831540
2	Solid telescopic PE smooth-wall pipe DN/OD 315 mm, height 0.6 m	62102315330
3	Rubber cuff DN 400/315 mm	62109400/315

Frame and cover corresponds to the requirements of EN 124 standard.

Solid telescopic PE smooth-wall pipe correspond to the requirements of EN 12201-2 and EN 14802 standards.

Rubber cuff corresponds to the requirements of EN 681-1 and EN 1277 standards.

Height-adjustment corrugated PP double-wall well/pipe DN/OD 400 mm with rubber sealing ring DN 400 mm

Name	Information	Code
4	Height-adjustment corrugated PP double-wall pipe DN/OD 400 mm	2144001006
	Rubber sealing ring DN 400 mm	212104000

Height-adjustment corrugated PP double-wall well/pipe corresponds to the requirements of EN 13476-3 and EN 14802 standards.

Rubber sealing ring corresponds to the requirements of EN 681-1 and EN 1277 standards.

Possible configuration of flow-through manhole CSS DN 400 mm base

Name	Connection DN/OD, [mm]	Code
5	110	621033400/110PP
	160	621033400/160PP
	200	621033400/200PP
	250	621033400/250PP
	315	621033400/315PP

Bases of flow-through manhole correspond to the requirements of EN 13598-2 and EN 476 standards.

Flexible connection to well +/- 3.5°.

Connection/transition to corrugated pipe

Name	DN/OD PP	DN/OD PVC, [mm]	Code
6	110	110	212091100
	160	160	212091600
	200	200	212092000
	250	250	212092500
	315	315	212093150

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage system chambers and gullies with sediment trap

Gullies with sediment trap CRS 400/315 for individual orders

Technical information/specification

Gullies with sediment trap CRS (chamber revision straight) for individual orders with diameter of DN 400 mm and access hole DN 315 mm.

Limits of installation

Minimum depth: 1.0 m; maximum depth: 5.0 m

Note: Sediment trap standard height* – 0.7 m from the surface of the outgoing spout. Sediment trap standard capacity $67 \text{ l} = 67 \text{ dm}^3$.

* – it is possible to order different height of sediment trap of the gully.

Application area

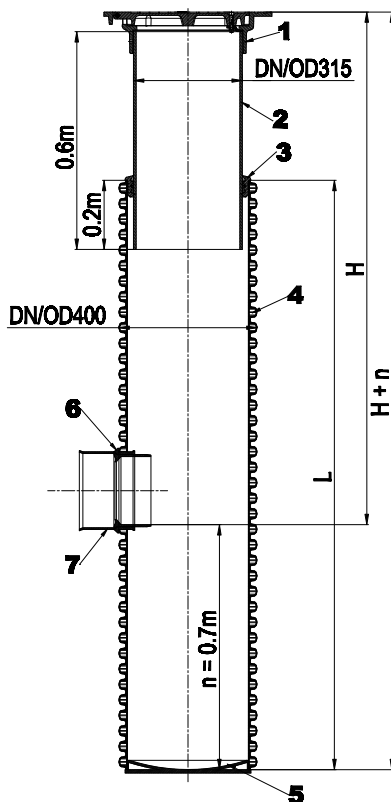
Used for collecting and draining stormwater from ground surface in sewerage networks, private house yards, multi-storey dwelling sections and yards, parking places, intersections, and pedestrian crossings.

Possible configuration of gully CRS 400/315 outgoing spout/connection*

DN/OD 110, 160, 200, and 250 mm.

* - Outgoing connections in gullies from DN/OD 110 to 200 mm may be formed by use of sealing rubber, but connections in gullies above DN/OD 200 mm should be formed by industrially welding in the connection cup.

Gully CRS 400/315 with sediment trap consists of the following elements:



Key:

1 – Cast iron frame with cross-bars, round, DN 315 mm or cast iron frame with cross-bars DN 315 mm, angular*, installation class D400 (40t);
* – angular cast iron frame with cross-bars is recommended for use in cobbled pavements

2 – Solid telescopic PE smooth-wall pipe DN/OD 315 mm, height 0.6 m;

3 – Rubber cuff DN 400/315 mm;

4 – Height-adjustment corrugated PP double-wall pipe DN/OD 400 mm;

5 – PP base of gully CRS sediment trap DN 400 mm;

6 – Connection sealing rubber DN, mm;

7 – PP connection cup DN, mm;

L – Height of height-adjustment pipe;

H – Gully total height up to spout, without sediment trap;

n – Height of sediment trap;

H + n – Gully total height with sediment trap.

Note: Connections above DN 200 mm should be formed by built-in connection cup.



Gravity sewerage system chambers and gullies with sediment trap

If the gully is connected to utility sewerage water network, at the place of connection siphon should be constructed.

PP siphon set for gully includes:

Name	Information	Quantity, [pcs.]	
1	PP double-coupling DN	1	
2	Corrugated PP double-wall pipe segments DN/OD, mm	3	
3	Rubber sealing rings DN, mm	2	

Material

- PP base of gully CRS sediment trap DN 400 mm corresponds to the requirements of EN 13476-3 and EN 14802 standards;
- Height-adjustment corrugated PP double-wall well/pipe DN/OD 400 mm corresponds to the requirements of EN 13476-3 and EN 14802 standards;
- Rubber cuff DN 400/315 mm and connection rubber sealing ring correspond to the requirements of EN 681-1 and EN 1277 standards;
- Connection cup corresponds to the requirements of EN 13476-3 standard;
- Solid telescopic PE smooth-wall pipe DN/OD 315 mm, height 0.6 mm, corresponds to the requirements of EN 12201-2 and EN 14802 standards;
- Cast iron frame with cross-bars, DN 315 mm, installation class D400 (40 t) corresponds to the requirements of EN 124 standard.

Advantages of the gully

- Long service life (>50 years);
- Flexible for movements in soil (no cracking of the gully);
- Water-tightness > 0.5 bar, watertight materials;
- Resistant to aggressive environment. No corrosion;
- Flexible connection to well +/- 3.5°;
- The diameter of access hole allows convenient and quick cleaning of sediment trap and maintenance works of the network.

Chemical resistance

Subject to ISO/TR 10358 and ISO/TR 7620, elements of the plastic well, as well as rubber sealing elements (rubber sealing rings and cuffs) are chemically resistant in pH 2 (acidic environment) and pH 12 (alkaline environment).



Gravity sewerage system chambers and gullies with sediment trap



Gullies with sediment trap CRS 400/315 for individual orders

Depth for installing stormwater gully CRS 400/315 without sediment trap: minimum 1.0 m and maximum 5.0 m.

Note: Sediment trap standard height* – 0.7 m from the surface of the outgoing spout.

Sediment trap standard capacity 67 l = 67 dm³.

* - it is possible to order different height of sediment trap of the gully.

Cast iron frame with cross-bars, round, DN 315 mm, class D400 (40 t), or cast iron frame with cross-bars and hinge without lock, angular, DN 315 mm, class D400 (40 t) with solid telescopic PE smooth-wall pipe DN/OD 315 mm, height 0.6 m and rubber cuff DN 400/315 mm

Name	Information	Code
1	Cast iron frame with cross-bars, round DN 315 mm	6210816040
	Cast iron frame with cross-bars, angular*, DN 315 mm	62107315K40
2	Solid telescopic smooth-wall PE pipe DN/OD 315 mm, height: 0.6 m	62102315330
3	Rubber cuff DN 400/315 mm	62109400/315

* - angular cast iron frame with cross-bars is recommended for use in cobbled pavements.

Frame and cover corresponds to the requirements of EN 124 standard.

Solid telescopic PE smooth-wall pipe correspond to the requirements of EN 12201-2 and EN 14802 standards.

Rubber cuff corresponds to the requirements of EN 681-1 and EN 1277 standards.

Height-adjustment corrugated PP double-wall well/pipe DN/OD 400 mm with PP base DN 400 mm

Name	Information	Code
4	Height-adjustment corrugated PP double-wall well/ pipe DN/OD 400 mm	2144001006
5	PP base of gully CRS sediment trap DN 400 mm	62104400E

Height-adjustment corrugated PP double-wall well/pipe corresponds to the requirements of EN 13476-3 and EN 14802 standards.

PP base corresponds to the requirements of EN 13476-3 and EN 14802 standards.

Possible configuration of gully CRS 400/315 outgoing spout/connection

Name	Information	Code
6	Connection sealing rubber DN 110 mm	621061101
	Connection sealing rubber DN 160 mm	621061601
	Connection sealing rubber DN 200 mm	621062001

Connection rubber sealing corresponds to the requirements of EN 681-1 and EN 1277 standards.

Name	Information	Code
7	PP connection cup DN 110 mm	212091100
	PP connection cup DN 160 mm	212091600
	PP connection cup DN 200 mm	212092000
	PP connection cup DN 250 mm	212092500

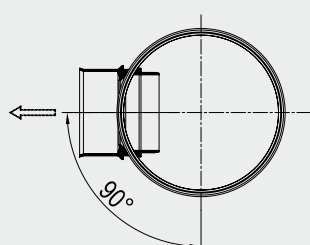
PP connection cup corresponds to the requirements of EN 13476-3 standard.

Note: Outgoing connections in gullies from DN/OD 110 to 200 mm may be formed by use of sealing rubber, but connections in gullies above DN/OD 200 mm should be formed by built-in connection cup.

Outgoing spout/connection of gully includes connection sealing rubber and adaptor from corrugated PP double-wall pipe to solid PVC smooth-wall pipe.

Flexible connection to well +/- 3.5°.

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.





Gravity sewerage system chambers and gullies with sediment trap

If the gully is connected to utility sewerage water network, at the place of connection siphon should be constructed.

Possible configuration of gully siphon.

Siphon set includes three corrugated PP double-wall pipe segments, two rubber sealing rings, and one PP double-coupling.

Name	Information	Code
8	PP siphon DN 110 mm	62138110
	PP siphon DN 160 mm	62138160
	PP siphon DN 200 mm	62138200
	PP siphon DN 250 mm	62138250

Corrugated PP double-wall pipe segments correspond to the requirements of EN 13476-3 standard.

PP double-coupling corresponds to the requirements of EN 13476-3 standard.

Rubber sealing rings correspond to the requirements of EN 681-1 and EN 1277 standards.

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage system chambers and gullies with sediment trap

Utility and stormwater sewerage chambers CSL 560/500 for individual orders

Technical information/specification

Utility sewerage and stormwater sewerage chambers CSL (chamber sanitary large) for individual order with diameter DN 560 mm and access diameter in the chamber DN 500 mm.

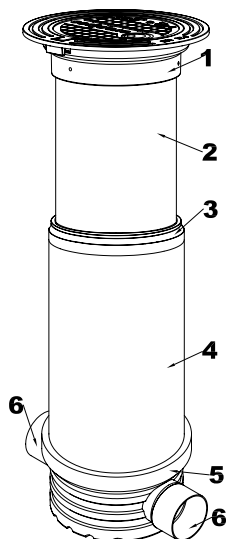
Limits of installation

Minimum depth: 1.5 m; maximum depth: 5.0 m

Application area

Recommended for the construction of utility sewerage networks and stormwater drainage networks in private house yards and courtyards, as well as yards of multi-storey buildings, dwelling section yards, and on main sewerage network lines. The well serves for control and cleaning of utility sewerage and stormwater drainage waste water in the case of blockage of utility sewerage and stormwater drainage waste water.

CSL 560/500 for individual orders consists of the following elements:



Key:

- 1 – Cast iron frame and cover, round, DN 500 mm, installation class D400 (40 t);
- 2 – Solid telescopic PE smooth-wall pipe DN/OD 500 mm, height 0.75 m;
- 3 – Telescopic PE adaptor DN 560/500 with built-in rubber sealing DN 500 mm;
- 4 – Height-adjustment solid PE smooth-wall well/pipe DN/OD 560 mm;
- 5 – Modified PE base for chamber CSL DN 560 mm, capacity of spout not smaller than the capacity of pipe;
- 6 – Built-in PE connection cups.

Modified PE bases CSL DN 560 mm

Modified outside construction of PE base for chamber CSL DN 560 mm is made of stabilising ribs, but the inside — of molten spout.

The base of the chamber is made with 100% spout filling and 0.5% spout fall. Connection of pipe to well base is flexible in all directions (+/- 2°).

PE base for chamber CSL DN 560 mm is available with two heights of the base:

- 350 mm, if connection diameter at the well base is DN 160, 200, 250 mm;
- 550 mm, if connection diameter at the well base is DN 315, 400 mm.

Note: In both variants of base, the height of connection of pipe to the base is constant — 50 mm from the bottom of the base.

Manufactured bases for chamber CSL DN 560 mm are available with the following configurations:





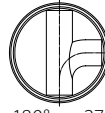



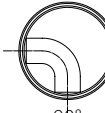


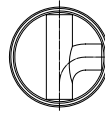










- 1S – one connection (straight);
- 1T – one connection (turn);

- 2ST – two connections (turn, straight);
- 3TST – two connections (turn, straight, turn).



Gravity sewerage system chambers and gullies with sediment trap

Possible configuration of CSL DN 560 mm PE base

Connection DN, [mm]	1S	1T		2ST		3TST	
	Height of base 350 mm						
DN 160	 180°	 90°	 270°	 90° un 180°	 180° un 270°	 120°, 180° un 240°	 90°, 180° un 270°
DN 200	 180°	 90°	 270°	 90° un 180°	 180° un 270°	 120°, 180° un 240°	 90°, 180° un 270°
DN 250	 180°	 105°	 255°			 105°, 180° un 255°	
Connection DN, [mm]	1S	1T		2ST		3TST	
	Height of base 550 mm						
DN 315	 180°	 120°	 240°				
DN 400	 180°						

Material

- PE bases of chamber CSL DN 560 mm correspond to the requirements of EN 13598-2 and EN 476;
- Height-adjustment solid PP smooth-wall chamber/pipe DN/OD 560 mm corresponds to the requirements of EN 12201-2 and EN 14802;
- Telescopic PE adaptor DN 560/500 mm with installed rubber sealing ring DN 500 mm corresponds to the requirements of EN 13476-3 and the rubber sealing ring corresponds to the requirements of EN 681-1 and EN 1277;
- Solid telescopic PE smooth-wall pipe DN/OD 500 mm, height 0.75 mm, corresponds to the requirements of EN 12201-2 and EN 14802;
- Cast iron frame with cover DN 500 mm, installation class D400 (40 t) corresponds to the requirements of EN 124.

Advantages of the chamber

- Long service life (>50 years);
- Flexible for movements in soil (no cracking of the chamber);
- Water-tightness > 0.5 bar, watertight materials;
- Resistant to aggressive environment. No corrosion;
- Flexible connection to well +/- 2°;
- The diameter of access hole allows convenient and quick performance of CCTV control and maintenance works of the sewerage networks.

Chemical resistance

Subject to ISO/TR 10358 and ISO/TR 7620, elements of the plastic well, as well as rubber sealing elements (rubber sealing rings and cuffs) are chemically resistant in pH 2 (acidic environment) and pH 12 (alkaline environment).



Gravity sewerage system chambers and gullies with sediment trap



Utility and stormwater sewerage chambers CSL 560/500 for individual orders

Depth of installation for utility sewerage and stormwater drainage chamber CSL 560/500: minimum 1.5 m and maximum 5.0 m.

Cast iron frame with cover, round, DN 500 mm, class D400 (40 t) with solid telescopic PE smooth-wall pipe DN/OD 500 mm, length of telescope – 0.75 m

Name	Information	Code
1	Cast iron frame and cover, round, DN 500 mm	6210850040
2	Solid telescopic PE smooth-wall pipe DN/OD 500 mm, height 0.75 m	62102500600

Frame and cover corresponds to the requirements of EN 124 standard.

Solid telescopic PE smooth-wall pipe corresponds to the requirements of EN 12201-2 and EN 14802 standards.

Telescopic PE adaptor DN 560/500 with installed rubber sealing ring DN 500 mm

Name	Information	Code
3	Telescopic PE adaptor DN 560/500 with installed rubber sealing ring DN 500 mm	621245600
4	Height-adjustment solid PE smooth-wall well/pipe DN/OD 560 mm	62102560137

Telescopic PE adaptor corresponds to the requirements of EN 13476-3 standard and the installed rubber sealing ring corresponds to the requirements of EN 681-1 and EN 1277 standards.

Height-adjustment solid telescopic PE smooth-wall pipe corresponds to the requirements of EN 12201-2 and EN 14802 standards.

Modified CSL DN 560 mm PE base

Name	Information	Height of base h, [mm]
5	DN 560 mm PE chamber bases with connection DN 160, 200, 250 mm	350
	DN 560 mm PE chamber bases with connection DN 315, 400 mm	550

PE bases of chamber DN 560 mm correspond to the requirements of EN 13598-2 and EN 476 standards.

PE connection cups are industrially welded on CSL DN 560 mm base

Name	Information	Code
6	PE connection cup DN 160 mm	62133160
	PE connection cup DN 200 mm	62133200
	PE connection cup DN 250 mm	62133250
	PE connection cup DN 315 mm	62133315
	PE connection cup DN 400 mm	62133400

EP connection cup corresponds to the requirements of EN 13476-3 standard.

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage system chambers and gullies with sediment trap

Possible configuration of CSL DN 560 mm PE base

3TST chamber base with connections 120°, 180° and 240°

Connection DN/OD, [mm]	Height of base h, [mm]	Code
160	350	623PE560CSB3ST153512
200	350	623PE560CSB3ST203512

3TST chamber base with connections 105°, 180° and 255°

Connection DN/OD, [mm]	Height of base h, [mm]	Code
250	350	623PE560CSB3ST252535

3TST chamber base with connections 90°, 180° and 270°

Connection DN/OD, [mm]	Height of base h, [mm]	Code
160	350	623PE560CSB3ST153509
200	350	623PE560CSB3ST203509

2ST chamber base with connections 90° and 180°

Connection DN/OD, [mm]	Height of base h, [mm]	Code
160	350	623PE560CSB2ST153509
200	350	623PE560CSB2ST203509

2ST chamber base with connections 180° and 270°

Connection DN/OD, [mm]	Height of base h, [mm]	Code
160	350	623PE560CSB2ST153518
200	350	623PE560CSB2ST203518

The spout of the base has 100% filling.
The spout of the base has 0.5% slope towards output.
Flexible connection to well +/- 2°.

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Gravity sewerage system chambers and gullies with sediment trap

Possible configuration of CSL DN 560 mm PE base

1S flow-through chamber base

Connection DN/OD, [mm]	Height of base h, [mm]	Code
160	350	623PE560CSS1 S153500
200	350	623PE560CSS1 S203500
250	350	623PE560CSS1 S253500
315	550	623PE560CSS1 S305500
400	550	623PE560CSS1 S405500

1T chamber base with connection 90°

Right bend

Connection DN/OD, [mm]	Height of base h, [mm]	Code
160	350	623PE560CSS1 T153509
200	350	623PE560CSS1 T203509

1T chamber base with connection 270°

Left bends

Connection DN/OD, [mm]	Height of base h, [mm]	Code
160	350	623PE560CSS1 T153527
200	350	623PE560CSS1 T203527

1T chamber base with connection 105°

Right bends

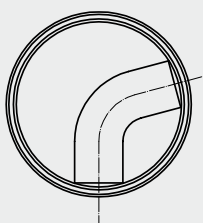
Connection DN/OD, [mm]	Height of base h, [mm]	Code
250	350	623PE560CSS1 T253510

Pamatnes tekne ir veidota ar 100% pildījumu
Pamatnes tekne ir veidota ar slīpumu 0.5% uz izvada pusi
Connection pie pamatnes ir elastīgs +/- 2°

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage system chambers and gullies with sediment trap

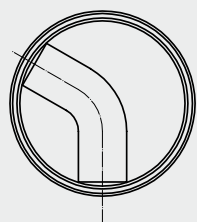


Possible configuration of CSL DN 560 mm PE base

1T chamber base with connection 255°

Left bend

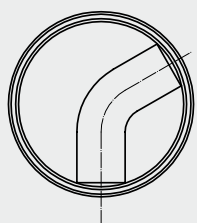
Connection DN/OD, [mm]	Height of base h, [mm]	Code
250	350	623PE560CSS1 T253525



1T chamber base with connection 120°

Right bend

Connection DN/OD, [mm]	Height of base h, [mm]	Code
315	550	623PE560CSS1 T305512



1T chamber base with connection 240°

Left bend

Connection DN/OD, [mm]	Height of base h, [mm]	Code
315	550	623PE560CSS1 T305524

The spout of the base has 100% filling
The spout of the base has 0.5% slope towards output
Flexible connection to well +/- 2°

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage system chambers and gullies with sediment trap

Gullies with sediment trap CRS 560/500 for individual orders

Technical information/specification

Gullies with sediment trap CRS (chamber revision straight) for individual orders with diameter of DN 560 mm and access hole DN 500 mm.

Depth for installing without sediment trap:

minimum depth: 1.5 m; maximum depth: 5.0 m

Note: Sediment trap height – 0.35 m with capacity 96 l = 96 dm³ or 0.55 m with capacity 134 l = 134 dm³.

Application area

Used for the collection of stormwater and conveyance thereof from the surface of ground to stormwater drainage networks:

- in private house yards;
- in multi-storey dwelling sections and yards;
- at parking lots;
- from the surface of roads of intersections and at places of pedestrian crossings.

Material

- PE base of gully CRS sediment trap DN 560 mm corresponds to the requirements of EN 13598-2 and EN 476 standards;
- Height-adjustment corrugated PE smooth-wall well/pipe DN/OD 560 mm corresponds to the requirements of EN 12201-2 and EN 14802 standards;
- Telescopic PE adaptor DN 560/500 mm with installed rubber sealing ring DN 500 mm corresponds to the requirements of EN 13476-3 standard and rubber sealing ring corresponds to the requirements of EN 681-1 and EN 1277 standards;
- PE connection cup corresponds to the requirements of EN 13476-3 standard.
- Solid telescopic PE smooth-wall pipe DN/OD 500 mm, height 0.75 mm, corresponds to the requirements of EN 12201-2 and EN 14802 standards;
- Cast iron frame with cross-bars, DN 500 mm, installation class D400 (40 t) corresponds to the requirements of EN 124 standard.

Possible configuration of gully CRS 560/500 outgoing spout/connection*

DN/OD 160, 200 and 250 mm.

* – Output connection in the gully is industrially welded to PE connection cup.

Modified CRS DN 560 mm PE sediment trap base preparation

Modified gully CRS DN 560 mm sediment trap PE base preparation outer design consists of stabilising ribs.

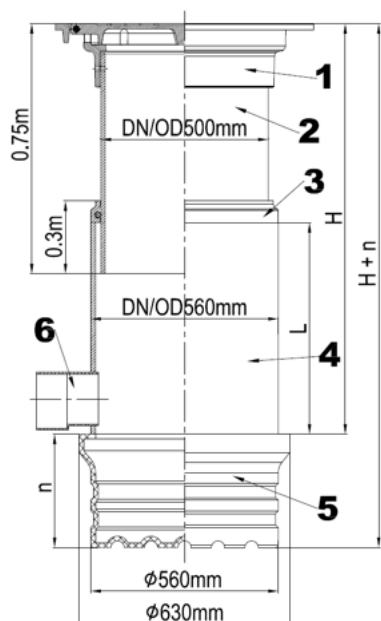
PE sediment trap base for gully CRS DN 560 mm is available with two heights of the base:

- height 350 mm and capacity 96 l = 96 dm³;
- height 550 mm and capacity 143 l = 143 dm³.



Gravity sewerage system chambers and gullies with sediment trap

Gully CRS 560/500 with sediment trap consists of the following elements:



Key:

- 1 – Cast iron frame with cross-bars, round, DN 500 mm, or cast iron frame with cross-bars, angular*, DN 500 mm, installation class D400 (40 t);
- * – Angular cast iron frame with cross-bars is recommended for use in cobbled pavements
- 2 – Solid telescopic PE smooth-wall pipe DN/OD 500 mm, height 0.75 m;
- 3 – Telescopic PE adaptor DN 560/500 with built-in rubber sealing DN 500 mm;
- 4 – Height-adjustment solid PE smooth-wall well/pipe DN/OD 560 mm;
- 5 – PE base of sediment trap for gully CRS DN 560 mm preparation;
- 6 – PE connection cup DN, mm;
- L – Height of height-adjustment pipe;
- H – Gully total height up to spout, without sediment trap;
- n – Height of sediment trap;
- H + n – Gully total height with sediment trap.

Note: Connections in gully are made by built-in PE connection cups..

If the gully is connected to utility sewerage water network, at the place of connection siphon should be constructed.

PP siphon set for gully includes:

Name	Information	Quantity, [pcs.]	
1	PPP double-coupling DN, mm	1	
2	Corrugated PP double-wall pipe segments DN/OD, mm	3	
3	Rubber sealing rings DN, mm	2	

Advantages of the gully

- Long service life (>50 years);
- Flexible for movements in soil (no cracking of the gully);
- 100 % water-tightness;
- Resistant to aggressive environment. No corrosion;
- Flexible connection to well +/- 3.5°;
- The diameter of the well allows convenient and quick cleaning of sediment trap and maintenance works of the network.

Chemical resistance

Subject to ISO/TR 10358 and ISO/TR 7620, elements of the plastic well, as well as rubber sealing elements (rubber sealing rings and cuffs) are chemically resistant in pH 2 (acidic environment) and pH 12 (alkaline environment).



Gravity sewerage system chambers and gullies with sediment trap



Gullies with sediment trap CRS 560/500 for individual orders

Depth for installing stormwater gully CRS 560/500 without sediment trap: minimum 1.5 m, maximum 5 m.

Note: Sediment trap height – 0.35 m with capacity 96 l = 96 dm³ or 0.55 m with capacity 134 l = 134 dm³.

Cast iron frame with cross-bars, round, DN 500 mm, class D400 (40 t), or cast iron frame with cross-bars and hinge without lock, angular, DN 500 mm, class D400 (40 t) with solid telescopic PE smooth-wall pipe DN/OD 500 mm, height 0.6 m and rubber cuff DN 400/75 m

Name	Information	Code
1	Cast iron frame with cross-bars, round, DN 500 mm	6210750040
	Cast iron frame with cross-bars, angular*, DN 500 mm	62107500K40
2	Solid telescopic smooth-wall PE pipe DN/OD 500 mm, height: 0.75 m	62102500600

* - angular cast iron frame with cross-bars is recommended for use in cobbled pavements.

Frame and cover corresponds to the requirements of EN 124 standard.

Solid telescopic PE smooth-wall pipe correspond to the requirements of EN 12201-2 and EN 14802 standards.

Telescopic PE adaptor DN 560/500 with installed rubber sealing ring DN 500 mm

Height-adjustment PE smooth-wall well/pipe DN/OD 560 mm with PP base DN 560 mm

Name	Information	Code
3	Telescopic PE adaptor DN 560/500 with installed rubber sealing ring DN 500 mm	621245600
4	Height-adjustment PE smooth-wall well/pipe DN/OD 560 mm	62102560137
5	Gully CRS sediment trap base DN560, height 350 mm	623PE560000000003500
6	Gully CRS sediment trap base DN560, height 550 mm	623PE560000000005500

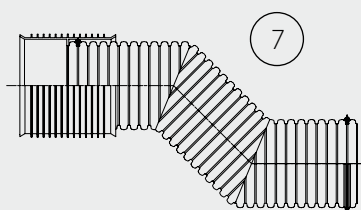
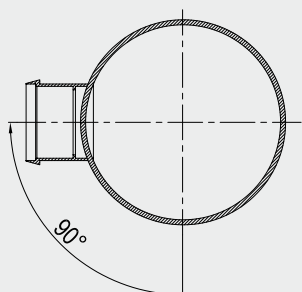
Telescopic PE adaptor corresponds to the requirements of EN 13476-3 and the installed rubber sealing ring corresponds to the requirements of EN 681-1 and EN 1277.

Height-adjustment solid telescopic PE smooth-wall pipe corresponds to the requirements of EN 12201-2 and EN 14802 standards.

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage system chambers and gullies with sediment trap



Possible configuration of gully CRS 560/500 outgoing spout/connection

Name	Information	Code
6	PE connection cup DN 160 mm	62133160
	PE connection cup DN 200 mm	62133200
	PE connection cup DN 250 mm	62133250

Outgoing spout/connection of gully includes a built-in PE connection cup.
Flexible connection to well +/- 3.5°.
EP connection cup corresponds to the requirements of EN 13476-3 standard.

If the gully is connected to utility sewerage water network, at the place of connection siphon should be constructed.

Possible configuration of PP siphon of the gully

Name	Information	Code
7	PP siphon DN 160 mm	62138160
	PP siphon DN 200 mm	62138200
	PP siphon DN 250 mm	62138250

Siphon set includes three corrugated PP double-wall pipe segments, two rubber sealing rings, and one PP double-coupling.

Corrugated PP double-wall pipe segments correspond to the requirements of EN 13476-3 standard.
PP double-coupling corresponds to the requirements of EN 13476-3 standard.
Rubber sealing rings correspond to the requirements of EN 681-1 and EN 1277 standards.



Gravity sewerage system chambers and gullies with sediment trap

Utility sewerage and stormwater drainage EVOPIPES-ROMOLD plastic folding chamber CSL, PP, DN 1000/625

Technical information/specification

Folding PP DN 1000/625 utility and stormwater sewerage chambers CSL (chamber sanitary large) with diameter of DN 1000 mm and access hole DN 625 mm.

Limits of installation

- Minimum: 1.25 m;
- Maximum installation depth is up to 6.0 m, if the ground water level is 2.0 m from the surface. If the ground water level is 0.0 m from the surface, the maximum installation depth is 5.0 m, according to the requirements of EN 13598-2 standard.

Application area

Recommended for use in construction of stormwater and utility sewerage networks in courtyards and yards of multi-storey dwellings, and arterial lines of sewerage networks. The chamber serves for control of stormwater and utility sewerage, and for clearing works in case of blocking of stormwater and utility sewerage lines.

Technical specification for folding chamber EVOPIPES-ROMOLD CSL PP DN 1000/625:

PP chamber DN 1000 mm with neck access hole DN 625 mm is made of PP and according to the requirements of EN 13598-2 and EN 476 standard. In the manufacturing, only 100% first-use solid material without manufacturing impurities or foam particles is used.

The rib of the outer surface of the casing ensures the "stabilisation" effect in the soil even if the installation depth is 5.0 m and ground water level 0.0 m from the ground/road surface. Casing elements are made of solid-walls material with vertical and horizontal rib for distribution of external mechanical load and self-stabilisation.

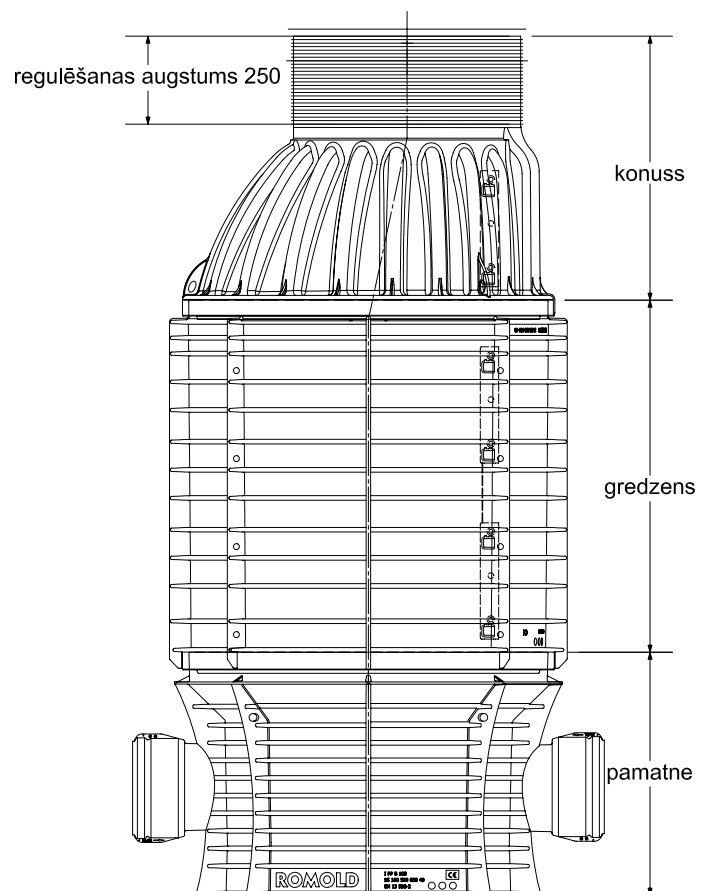
Chamber casing elements are equipped with built-in corrosion-resistant steps in light colour. Especially enduring glass fibre reinforced polypropylene material has been used in manufacturing the steps, according to the safety rules of the EU.

At contact points of casing elements safety three-fold rubber gaskets, conforming to the requirements of EN 681-1 and EN 1277 standard, are used.

Chamber base is deformation-resistant with inner rib and horizontally even lower part. Manufactured light-coloured PP spout, spout depth similar to the diameter of connection pipe. For better flow, the spout has 0.5% fall.

Reinforced concrete ring made of C20/25 (B 22.5) concrete with vertical height adjustment feature for optimum distribution of vertical load corresponds to the requirements of EN 206-1 standard.

Malleable cast iron cover with hole in diameter of 625 mm, installation class D400 kN (40 t) to be mounted on the reinforced concrete ring corresponds to the requirements of EN 124 and EN 14802 standards.

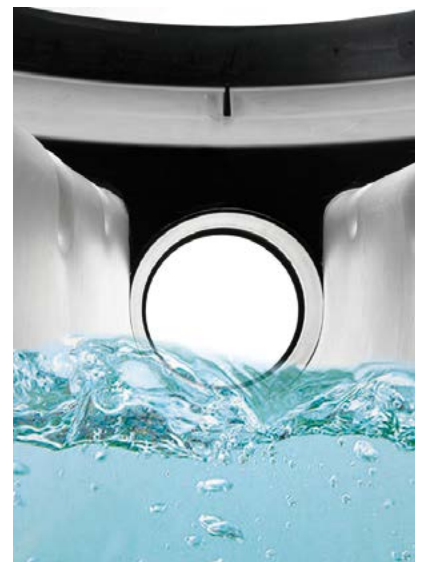
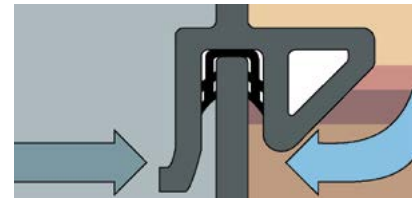




Gravity sewerage system chambers and gullies with sediment trap

Advantages of the chamber

- Long service life (>50 years);
- Flexible for movements in soil (no cracking of the chamber);
- 100 % water-tightness;
- Self-stabilisation ensured by unique construction of external rib;
- Resistant to aggressive environment. No corrosion;
- Flexible connection to well +/- 7.5o;
- The diameter of access hole allows convenient and quick performance of CCTV control and maintenance works of the sewerage networks.
- Chamber neck access hole DN 625 mm, as well as the steps, which have been built-in according to the requirements of EN 476 and EN 13598-2 standards, allows to enter the chamber during operation phase in case such need arises for the service personnel.
- Chamber is manufactured from 100% first-use PP. The external part of chamber casing is made of stabilising vertical and horizontal ribs.
- The spout of the chamber base is molten in white colour to facilitate CCTV control. The spout of the chamber is made with 100% filling and 0.5% fall. Racks along the spout are made of whit anti-slip profiled surface with fall in direction of the spout.
- The possible diapason of connection pipes to chamber base is from DN 160 to 400 mm, depending on the configuration of chamber base. Flexible connection to well +/- 7.5o, according to the requirements of EN 1852 standard. The chamber base has built-in connections.
- Steps in the well are constructed according to the requirements of EN 13101 or EN 14396 standards or to requirements of Latvian or European safety norms (related to human work safety) stating that the first steps in well must be 30 cm from the ground/road surface, but the distance between the next steps may be 25 cm. Steps are anti-slip and corrosion-resistant, in white colour.
- To ensure the water-tightness of the well, the folding elements are connected with rubber sealing rings DN 1000 mm corresponding to the requirements of EN 681-1 and EN 1277 standards. The well must ensure the maximum pressure of 0.5 bar. According to the requirements of EN 681-1 and EN 1277 standards, rubber sealing rings of wells have to ensure water-tightness of connections at water pressure of 0.5 bar.



Chemical resistance

Subject to ISO/TR 10358 and ISO/TR 7620, elements of the plastic well, as well as rubber sealing elements (rubber sealing rings and cuffs) are chemically resistant in pH 2 (acidic environment) and pH 12 (alkaline environment).



Gravity sewerage system chambers and gullies with sediment trap



Evopipes-Romold folding PP sewerage manhole DN 1000/625

B class cast iron frame with cover, round, available in the following configuration

According to the requirements of the EN 124 standard

Diameter of the hole DN, [mm]	Name	Code
DN 600	*Cast iron frame and cover, round, without hinge, with lock, class B125 (12.5 t)	62108600120

*-possible to order with client's logo

D class cast iron frame with cover, round, available in the following configuration:

According to the requirements of the EN 124 standard

Diameter of the hole DN, [mm]	Name	Code
DN 600	*Cast iron frame and cover, round, without hinge and lock, class D400 (40 t)	6210863040
DN 600	*Cast iron frame and cover, round, without hinge, with lock, class D400 (40 t)	62108600400

*-possible to order with client's logo

D class cast iron frame with cross-bars, round, available in the following configuration:

According to the requirements of the EN 124 standard

Diameter of the hole DN, [mm]	Name	Code
DN 600	*Cast iron frame with cross-bars, round, without hinge and lock, class D400 (40t)	6210863040

*-possible to order with client's logo

E class cast iron frame with cover, round, available in the following configuration:

According to the requirements of the EN 124 standard

Diameter of the hole DN, [mm]	Name	Code
DN 600	*Cast iron frame and cover, round, without hinge, with fixing, class E600 (60 t)	62108600608

*-possible to order with client's logo

F class cast iron frame with cover, round, available in the following configuration:

According to the requirements of the EN 124 standard

Diameter of the hole DN, [mm]	Name	Code
DN 600	*Cast iron frame and cover, round, without hinge, with lock, class F900 (90 t)	62108600901

*-possible to order with client's logo



Height adjustment reinforced concrete ring DN 625

According to the requirements of the EN 124 standard

Concrete class C 20/25 (B 22.5)

DN, [mm]	Height, [cm]	Code
DN 625	6	622PP100BPG060

Piezime: Installation according to requirements

Reinforced concrete supporting ring DN 625

According to the requirements of the EN 124 standard

Concrete class C 20/25 (B 22.5)

DN, [mm]	Height, [cm]	Code
DN 625	16	622PP100BAR067

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage system chambers and gullies with sediment trap



Chamber eccentric bevel DN 1000/625

DN, [mm]	Height, [cm]	Code
DN 1000/625	50 - 75	622PP100 EU075



Well sealing rubber DN 1000

According to the requirements of the EN 681-1 and EN 1277 standards.

DN, [mm]	Information	Code
DN 1000	DN 1000 akas saliekamo elementu savienošana	622PP100 ES100



Well ring DN 10000

DN, [mm]	Height, [cm]	Code
DN 1000	25	622PP100 E025
	50	622PP100 E050
	75	622PP100 E075
	100	622PP100 E100



Chamber base DN 1000

According to the requirements of the EN 206-1 standard.

DN, [mm]	Information	Height, [cm]
DN 1000	Flexible connection to well +/- 7.5°	50

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Gravity sewerage system chambers and gullies with sediment trap



Possible configuration of manhole CSL DN 1000 mm base:

3 BL

Connection DN/OD, [mm]	Height, [cm]	Code
200	50	622PP100CSB3BL205006
250	50	622PP100CSB3BL255006
315	50	622PP100CSB3BL305006

Flexible connection to well (+/- 7.5°) with base gradient 2 cm, with connection 120° and 240°

3 BL

Connection DN/OD, [mm]	Height, [cm]	Code
200	50	622PP100CSB3BL205009
315	50	622PP100CSB3BL305006

Flexible connection to well (+/- 7.5°) with base gradient 2 cm, with connection 90° and 270°

2 BT

Connection DN/OD, [mm]	Height, [cm]	Code
200	50	622PP100CSB2BT205009
250	50	622PP100CSB2BL305009
315	50	622PP100CSB2BT305009

Flexible connection to well (+/- 7.5°) with base gradient 2 cm, with connection 90° and 270°

2 BL

Connection DN/OD, [mm]	Height, [cm]	Code
160	50	622PP100CSB2BL155009
200	50	622PP100CSB2BL205009
250	50	622PP100CSB2BL255009
315	50	622PP100CSB2BL305009
160	50	622PP100CSB2BL155027
200	50	622PP100CSB2BL205027
250	50	622PP100CSB2BL255027
315	50	622PP100CSB2BL305027

Flexible connection to well (+/- 7.5°) with base gradient 2 cm, with connection 90° and 180° accordingly 180° un 270°

1 B

Connection DN/OD, [mm]	Height, [cm]	Code
160	50	622PP100CSS1 B1550
200	50	622PP100CSS1 B2050
250	50	622PP100CSS1 B2550
315	50	622PP100CSS1 B3050
400	50	622PP100CSS1 B4050
500	80	622PP100CSS1 B5080

Flexible connection to well (+/- 7.5°)

1 BB

Connection DN/OD, [mm]	Height, [cm]	Code
160	50	622PP100CSS1BB1550XX
200	50	622PP100CSS1BB2050XX
250	50	622PP100CSS1BB2550XX
315	50	622PP100CSS1BB3050XX
400	50	622PP100CSS1BB4050XX

Flexible connection to well (+/- 7.5°) manufactured molten right or left bend, spout channel is solid, without joints (no segmentation).

XX - at the end of the code, the needed angle (in degrees) of bend is indicated.

Product pictures are provided for informative purposes only. Proportions and colours of the original production may differ from the pictures.



Gravity sewerage system chambers and gullies with sediment trap



Available manufactured molten bends for spout channels:

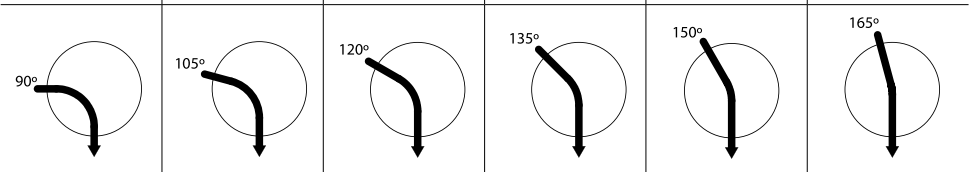
Right bend

Angle of turn in degrees

90°	105°	120°	135°	150°	165°
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End of the code

09	10	12	13	15	16
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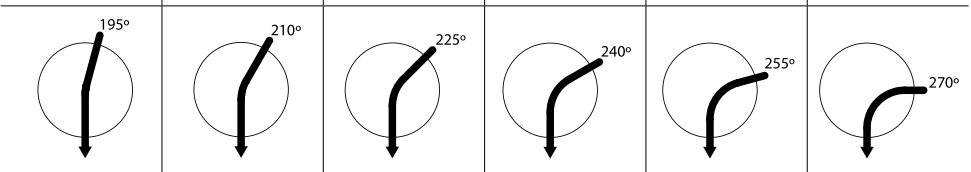
Left bend

Angle of turn in degrees

195°	210°	225°	240°	255°	270°
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End of the code

19	21	22	24	25	27
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1 BB

Connection DN/OD, [mm]	Height, [cm]	Code
500	80	622PP100CSS1BB4080XX

Flexible connection to well (+/- 7.5°) manufactured molten right or left bend, spout channel is solid, without joints (no segmentation).

XX - at the end of the code, the needed angle (in degrees) of bend is indicated.

Available manufactured molten bends for spout channels:

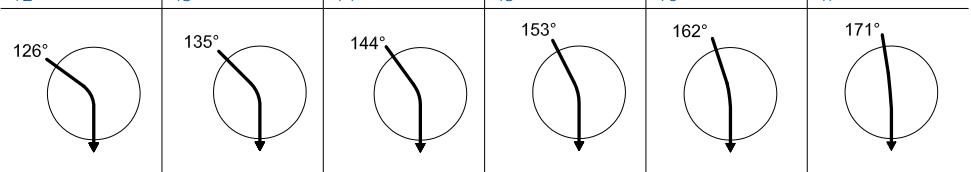
Right bend

Angle of turn in degrees

126°	135°	144°	153°	162°	171°
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End of the code

12	13	14	15	16	17
----	----	----	----	----	----



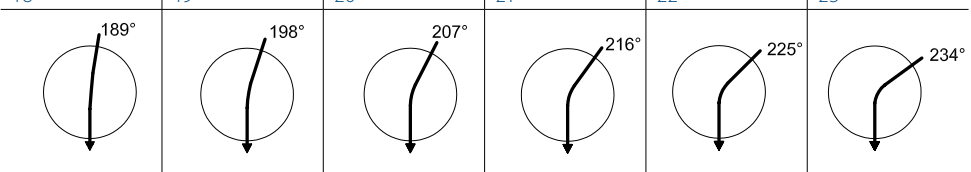
Left bend

Angle of turn in degrees

189°	198°	207°	216°	225°	234°
------	------	------	------	------	------

End of the code

18	19	20	21	22	23
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Form for chambers for individual orders

CLIENT: _____

OBJECT: _____

CONTACT PERSON: _____

TELEPHONE: _____

FAX: _____

NOTES _____

K1 – utility waste water; **K2** – stormwater waste water; **D** – drainage waste water; **OD** – outer diameter;

Connection pipe – this row of the column must be completed in accordance with the designations specified below:

1 – EVOSAN, EVOSAN-RF and EVORAIN corrugated double-wall pipes;

2 – PVC, PP, PE solid smooth-wall pipe;

3 – EVODRAIN corrugated single-wall pipe;

4 – EVODRAIN HARD corrugated double-wall pipe.

Example: If it is planned to attach EVOSAN, EVOSAN-RF and EVORAIN corrugated double-wall pipe, indicate number 1, etc. in the row of the column.

Chamber No.		In/Out	Connection pipe	Connection OD, [mm]	Height from spout, [cm]	Connection angle, [°]
Type						
Quantity, [pcs.]		1				
		2				
K1	K2	3				
		4				
Chamber diameter, [mm]		5				
		6				
		7				
Total height of the chamber:	..... [m]	Height of the sediment trap:	standard		..... [m]	
Total height of the gully:	..... [m]	Length of telescope:	standard		..... [m]	
With telescope	<input type="checkbox"/>	Closed cover 40t	<input type="checkbox"/>	Without cover	<input type="checkbox"/>	
Without telescope	<input type="checkbox"/>	Cover with cross-bars 40t	<input type="checkbox"/>	With siphon	<input type="checkbox"/>	

Chamber No.		In/Out	Connection pipe	Connection OD, [mm]	Height from spout, [cm]	Connection angle, [°]
Type						
Quantity, [pcs.]		1				
		2				
K1	K2	3				
		4				
Chamber diameter, [mm]		5				
		6				
		7				
Total height of the chamber:	..... [m]	Height of the sediment trap:	standard		..... [m]	
Total height of the gully:	..... [m]	Length of telescope:	standard		..... [m]	
With telescope	<input type="checkbox"/>	Closed cover 40t	<input type="checkbox"/>	Without cover	<input type="checkbox"/>	
Without telescope	<input type="checkbox"/>	Cover with cross-bars 40t	<input type="checkbox"/>	With siphon	<input type="checkbox"/>	

Chamber No.		In/Out	Connection pipe	Connection OD, [mm]	Height from spout, [cm]	Connection angle, [°]
Type						
Quantity, [pcs.]		1				
		2				
K1	K2	3				
		4				
Chamber diameter, [mm]		5				
		6				
		7				
Total height of the chamber:	..... [m]	Height of the sediment trap:	standard		..... [m]	
Total height of the gully:	..... [m]	Length of telescope:	standard		..... [m]	
With telescope	<input type="checkbox"/>	Closed cover 40t	<input type="checkbox"/>	Without cover	<input type="checkbox"/>	
Without telescope	<input type="checkbox"/>	Cover with cross-bars 40t	<input type="checkbox"/>	With siphon	<input type="checkbox"/>	

Chamber No.		In/Out	Connection pipe	Connection OD, [mm]	Height from spout, [cm]	Connection angle, [°]
Type						
Quantity, [pcs.]		1				
		2				
K1	K2	3				
		4				
Chamber diameter, [mm]		5				
		6				
		7				
Total height of the chamber:	..... [m]	Height of the sediment trap:	standard		..... [m]	
Total height of the gully:	..... [m]	Length of telescope:	standard		..... [m]	
With telescope	<input type="checkbox"/>	Closed cover 40t	<input type="checkbox"/>	Without cover	<input type="checkbox"/>	
Without telescope	<input type="checkbox"/>	Cover with cross-bars 40t	<input type="checkbox"/>	With siphon	<input type="checkbox"/>	

Chamber No.		In/Out	Connection pipe	Connection OD, [mm]	Height from spout, [cm]	Connection angle, [°]
Type						
Quantity, [pcs.]		1				
		2				
K1	K2	3				
		4				
Chamber diameter, [mm]		5				
		6				
		7				
Total height of the chamber:	..... [m]	Height of the sediment trap:	standard		..... [m]	
Total height of the gully:	..... [m]	Length of telescope:	standard		..... [m]	
With telescope	<input type="checkbox"/>	Closed cover 40t	<input type="checkbox"/>	Without cover	<input type="checkbox"/>	
Without telescope	<input type="checkbox"/>	Cover with cross-bars 40t	<input type="checkbox"/>	With siphon	<input type="checkbox"/>	

Chamber No.		In/Out	Connection pipe	Connection OD, [mm]	Height from spout, [cm]	Connection angle, [°]
Type						
Quantity, [pcs.]		1				
		2				
K1	K2	3				
		4				
Chamber diameter, [mm]		5				
		6				
		7				
Total height of the chamber:	..... [m]	Height of the sediment trap:	standard		..... [m]	
Total height of the gully:	..... [m]	Length of telescope:	standard		..... [m]	
With telescope	<input type="checkbox"/>	Closed cover 40t	<input type="checkbox"/>	Without cover	<input type="checkbox"/>	
Without telescope	<input type="checkbox"/>	Cover with cross-bars 40t	<input type="checkbox"/>	With siphon	<input type="checkbox"/>	



Division of Evopipes chambers according to their use

Application area	Range of chambers					
	CSR 200/160	CSS/B 400/315	CSL 560/500	CSL 1000/625	CRS 400/315	CRS 560/500
Chamber selection according to installation place/territory						
Private house for up to four dwellers	■	■				
Private house for more than four dwellers		■				
Courtyard		■	■			
Blocks of buildings			■	■		
Main roads			■	■		
For collection and conveyance of stormwater from the surface of the territory					■	■
Recommendable installation places of gullies						
In private house yards					■	
In multi-storey dwelling sections and yards					■	■
At parking lots					■	■
At intersections of roads and pedestrian crossings					■	■
At lowlands of territories						■
Recommendable selection/use of wells according to the type of sewerage networks						
Utility sewerage	■	■	■	■		
Stormwater drainage		■	■	■	■	■
Industrial sewerage		■	■	■		
Drainage		■	■	■	■	■
Recommendable well selection according to the nominal/outer diameter of the sewerage pipe DN/OD, [mm]						
DN/OD 110	■	■	■	■	■	■
DN/OD 160	■	■	■	■	■	■
DN/OD 200		■	■	■	■	■
DN/OD 250			■	■	■	■
DN/OD 315			■	■		■
DN/OD 400			■	■		■
DN/OD 500				■		
*Recommendable maximum installation depth of the well in accordance with the requirements of EN 13598-2 if the groundwater level is 2.0 m from the surface of ground/road.						
2.0 m	■					
4.0 m		■			■	
5.0 m			■			■
6.0 m				■		
*Recommendable maximum installation depth of the well in accordance with the requirements of EN 13598-2 if the groundwater level is 0.0 m from the surface of ground/road or territory subjected to flood.						
2.0 m	■					
3.0 m		■			■	
4.0 m			■			■
5.0 m				■		
<i>* It is possible to achieve greater installation depths by performing stabilisation and/or statical calculation for the particular situation.</i>						

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Resistance of various plastic materials against chemical substances in accordance with ISO/TR 10358

Chemical substances		PVC	Polyethylene	Polypropylene	Polycarbonate	Polyamide
	°C	PVC-U	PE	PP	PC	PA
Acetaldehyde, in water (40%)	40	d	*	*	-	d
Acetic acid (10%)	40	*	*	*	-	d
Acetic acid (10%-85%)	60	*	*	*	-	-
Acetic acid (85%-95%)	40	*	*	*	-	-
Acetic acid (>95%)	20	*	*	*	-	-
Acetone (small amount)	20	-	*	*	-	*
Ammonia, water liquid (20%)	40	*	*	*	-	*
Ammonia, dry gas	60	*	*	*	-	*
Ammonium chloride (20%)	20	*	d	d	d	-
Ammonium fluoride (2%)	20	*	d	d	d	-
Ammonium nitrate (20%)	20	*	d	d	d	-
Aniline (saturated liquid)	60	d	-	-	-	d
Orthoarsenic acid (<20%)	60	*	*	*	*	d
Beer	60	*	*	*	d	*
Benzene	20	-	d	d	-	*
Bleach (13%)	40	*	*	*	d	d
Borax, saturated liquid	60	*	*	*	d	d
Bromine acid, liquid (10%)	20	*	*	*	-	-
Butane, gas		*	-	-	*	*
Carbonic acid, dry	40	*	*	*	*	*
Carbonic acid, dry or moist	40	*	*	*	d	*
Carbon tetrachloride	20	-	-	-	-	*
Carbon disulphide	20	d	d	d	-	d
Sodium hydroxide (<40%)	40	*	*	*	-	*
Sodium hydroxide (40%-60%)	60	*	*	*	-	*
Cement, dry	20	*	*	*	*	*
Cement, mixture	20	*	*	*	-	*
Chlorine, dry or moist gas	20	d	d	d	-	-
Chlorine, water liquid	20	d	-	-	-	-
Chlorinated carbohydrate		-	-	-	-	*
Chlorosulphuric acid (100%)	20	d	d	d	-	-
Chromic acid, water liquid (<50%)	50	*	*	*	-	-
Chromic acid (20%)		d	d	d	*	-
Chromosulphuric acid (20%)		d	d	d	-	-
Citric acid, saturated liquid	60	*	*	*	*	*
Cresol, liquid (<90%)	45	d	d	d	-	-
Copper sulphate, saturated liquid	60	*	*	*	*	d
Copper chloride, saturated liquid	60	*	*	*	*	d
Diesel fuel	20	*	*	*	d	*
Photo developers	40	*	*	*	d	*
Dextrin (18%)	20	*	*	*	d	*
Esther		-	-	-	-	*
Ethyl alcohol (<40%)	40	*	*	*	d	*
Ethyl ether	20	-	d	d	d	*
Butyric acid	20	*	d	d	d	*
	40	*	*	*	d	*
Chlorinated fluorocarbohydrate		*	d	d	*	*
Formaldehyde, liquid	30	*	*	*	d	*
Formic acid (<30%)	40	*	*	*	d	-
Formic acid, concentrate	20	*	*	*	-	-

Chemical substances		PVC	Polyethylene	Polypropylene	Polycarbonate	Polyamide
	°C	PVC-U	PE	PP	PC	PA
Glycerine, liquid	60	*	*	*	d	*
Hydrochloric acid, liquid	40	*	*	*	d	-
Hydrochloric acid, concentrate	60	*	*	*	-	-
Hydrofluoric acid (40%)	20	*	*	*	-	-
Hydrofluoric acid (60%)	20	*	*	*	-	-
Hydrofluoric acid (100%)	20	*	*	*	-	-
Hydrogen (100%)	60	*	*	*	*	*
Hydrogen peroxide (20%)	20	*	*	*	d	d
Hydrogen sulphide, dry or moist	60	*	*	*	d	d
Hydrogen sulphide, liquid	40	*	*	*	d	d
Ketone		-	-	-	-	*
Lactic acid (10%-90%)	40	*	*	*	*	*
Methyl alcohol, liquid	40	*	*	*	-	*
Mineral oil	20	*	*	*	d	*
Sodium chlorate, liquid	20	*	*	*	d	*
Sodium hydroxide (<10%)	20	*	*	*	d	*
Nitric acid (<30%)	40	*	*	*	-	-
Nitric acid (<30%-45%)	45	*	*	*	-	-
Nitric acid (<50%-60%)	20	*	d	d	-	-
Nitrogen gases, dry or moist	60	d	d	d	-	d
Oils and fats	60	*	*	*	-	*
Oxalic acid, liquid (10%)	40	*	*	*	*	d
Oxalic acid, liquid (concentrate)	60	*	*	*	-	-
Oxygen	60	*	*	*	d	*
Ozone	20	*	d	d	-	d
Perchloric acid (10%)	20	*	*	*	d	*
Perchloric acid (70%)	60	-	d	d	-	d
Permanganate (<6%)	20	*	*	*	d	-
Gasoline	60	*	d	d	-	*
Petroleum	20	*	*	*	d	*
Phenol (<90%)	45	d	d	d	-	-
Orthophosphoric acid, liquid (<30%)	40	*	*	*	-	-
Orthophosphoric acid, liquid (>30%)	60	*	*	*	-	-
Potassium nitrate	60	*	*	*	-	*
Potassium chloride	60	*	*	*	-	*
Propane, liquid		*	-	-	*	*
Saline liquid	40	*	*	*	*	*
Seawater	40	*	*	*	d	*
Sulphur dioxide (all states)	40	*	*	*	d	d
Sulphuric acid, liquid (<40%)	40	*	*	*	d	-
Sulphuric acid, liquid (40%-80%)	60	*	*	*	-	-
Sulphuric acid, liquid (80%-90%)	40	*	*	*	-	-
Sulphuric acid, liquid (90%-96%)	20	*	*	*	-	-
Sodium chloride liquid (weak)	40	*	*	*	*	*
Tartaric acid (10%)	60	*	*	*	*	*
Urine	40	*	*	*	*	*
Water	60	*	*	*	*	*
Xylene (100%)	20	-	d	d	-	*
Zinc chloride, liquid (all types)	60	d	*	*	d	-
Zinc chloride, liquid (weak)	60	*	*	*	d	-

Legend:

- * The plastic product is resistant against the chemical substance in the standard burying conditions
- d The plastic product is partially resistant against the chemical substance in the standard burying conditions
- The plastic product does not withstand the chemical substance



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