**RAINEO Rainwater management system**

1. **Application:** for non-pressure/gravity management, control and regulation of atmospheric water. Conditionally clean or purified rainwater can be used for drainage into the soil, controlled discharge to the sewage system or to channels and rivers, reuse, irrigation, etc. It can be also stored and used afterwards for second use, irrigation or fire-extinguish, etc.
2. **The system is usable for:**

* **Collecting stormwaters**-stormwater is being collect from different surfaces, with different drainage capacity into an appropriate outfall. It has the ability to catch large natural or artificial polluting particles. This happens through gravity or under special technical, terrain, etc. conditions could happen under pressure or vacuum. All integral parts of the system meet minimum of the respective product standards and existing requirements for compatibility, installation, exploitation, monitoring, maintenance and cleaning.
* **Transportation and distribution of stormwater**- stormwater is being transported and allocated through respective sewage systems and products. Those should meet minimum of the respective product standards and existing requirements for installation, exploitation and maintenance according БДС EN 1610 и БДС EN 752.
* **Purification of stormwater-**water is being purified through the respective treatment equipment. All integral parts of the system meet minimum of the respective product standards and existing requirements for compatibility, installation, exploitation, monitoring, maintenance and cleaning.
* **Stormwater system monitoring**-monitoring of the quality and quantity of stormwater after purifying process and before the start of retention or infiltration. Distant detection of pollutants is recommended.
* **Infiltration of stormwater-** water is collected in the units during rainfall and allowed to drain away by soaking into the surrounding ground over a substantial period of time after the rain has stopped. Water needs 6-72 hrs. to infiltrate according to ATV-DVWK-A-139
* **Retention/storage of stormwater** water is collected in the units during rainfall and released at a reduced flow rate through a flow control device, into an appropriate outfall This reduces peak flows in the watercourse and, therefore, minimizes the risk of flooding
* **Combined systems** — water is collected in the units during rainfall and able to flow out of the tank via infiltration and through an outlet flow control device into an appropriate outfall
* **Outlet flow control of stormwater**-water is distributed to the respective surface or underground outfall, in a defined by the respective authority quantities, so аn overload of the receiver is prevented as well as flooding. Monitoring over the outlet flow according the requirements of the supervisors.

1. **Product description**: The system consists of equipment, elements and products that are collecting, transporting and distributing, monitoring, infiltrating or retaining and releasing the stormwater flow. All integrated parts of the system are running under the hydraulic and mechanical laws for stormwater management.
2. **System solutions for:**

* Preventing urban areas from flooding
* Renewing groundwaters in the system area
* Reducing pipe diameters in the newly designed sewerage networks
* Purifying atmospheric waters
* Controlling atmospheric waters
* Ease the WWTS loads
* Avoiding mixed sewerage networks
* Regulating stormwater flows that are flowing out of the system
* Retaining big water volumes. It gives the opportunity to store water safe and monitor its outlet flow.

1. **Manufacture:** Every single part, element or product is manufactured according to the respective requirements.
2. **Material:** Every single part, element or product is manufactured with the respective material and according to the respective requirements of the standard.
3. **Durability:** The boxes, when used in accordance with requirements, will have a life of 50 years when maximal loaded.
4. **Marking, according the requirements:** manufacturer’s logo, product name, material symbol, manufacturing date, box capacity and other marking, regarding every single part of the system.
5. **System kit:** Equipment completion depends ontheprojects, terrain and hydraulic requirements, as well as on the authorities and the existing permits for soil infiltration or distribution to the respective surface or underground outfalls.
6. **Installation parameters for areas subject to traffic loads:** min: depth-0.8m, max depth-6.00m (depending on the equipment, product or element according to БДС EN1610)
7. **Installation parameters for green areas:** min depth-0.4м, max. depth-6.00 м (depending on the equipment, product or element according to БДС EN1610).
8. **Compatibility with drainage and sewerage system elements (manholes and inspection chambers, wastewater treatment plants, different types of pipes-smooth or profiled, etc.)**: Yes. The whole system is a part of sewage infrastructure and local networks.
9. **Inspection and cleaning:** Inspection via CCTV and hydro-dynamically cleaning with a pressure of up to 120 bars of every part of the system.
10. **Resistance to chemicals:** The components of the system are suitable for use in contact with the chemicals likely to be found in rainwater.
11. **Software:** Software that guarantees conformity with the standards of product, way of application and methods of calculations for hydraulic and static dimensioning of the systems for infiltration or storage. It has also tools for offering and possibility for project drawings. Easy changing of project dimensions during design or even on site**.**
12. **Standard:** Every single part, element or product meets the respective standard. The whole system together should meet the following standards: БДС EN 1610, БДС EN 752,ATV-DVWK-A-139, ATV-DVWK-A-117, ATV-DVWK-M-153, ATV-DVWK-A-127
13. **Certificates and approvals:** Every single part, element or product of the system has a certificate and approvals, regarding the its characteristics, parameters, processes.
14. **Reuse and recyclability:** Every part, element or product of the system can be recycled.
15. **Manufactured:** In conformity with ISO 9001(Quality control systems) and ISO 14001 (Environment control systems).