The Pure Eco

Pureco Africa

product and service portfolio

PURECO

THE PURE ECO

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PURECO GROUP INTRODUCTION

The Pureco Group of Companies is a Central European Water Engineering Company headquartered in Budapest, Hungary. Having more than 10 affiliated companies in 6 countries of two continents. The Pureco Group develop, design-build, operate and maintain complex water management and environmental related projects. The sustainable and affordable water management solutions provided by Pureco are currently serving people in more than 20 countries of 4 continents.

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Pureco Africa has been established as the subsidiary of the Pureco Group to cover and service the West African market. We offer a variety of tailored service levels in the field of drinking water purification, communal and industrial wastewater management and landfill leachate treatment, stormwater management and air treatment having recycling and cost-effective project outcome in focus. This is to help our clients get value for their investment with maximum satisfaction. Pureco is one of the founding members of the Hungarian Water Partnership and the Hungarian multi-stakeholder platform and network on water established to provide innovative solutions for water challenges.

Our experts in the different segments of the water industry possess an outstanding professional and innovative knowledge, which had been known and recognized in many parts of the world. Our CEOs play important roles in national and international organizations, e.g. past- president of European Water Association, vice president of Eurasian ASEM Water Academic Development Committee, member of the steering group of European Innovation Partnership on Water and have been working for several years for the worldwide recognition of the Hungarian professional knowledge in the field of complex water management.

EUROPEAN WATER ASSOCIATION

亚欧水资源 研究和利用中心 ASEMWATER

VWSA HỘI CẤP THOÁT NƯỚC VIETNAM

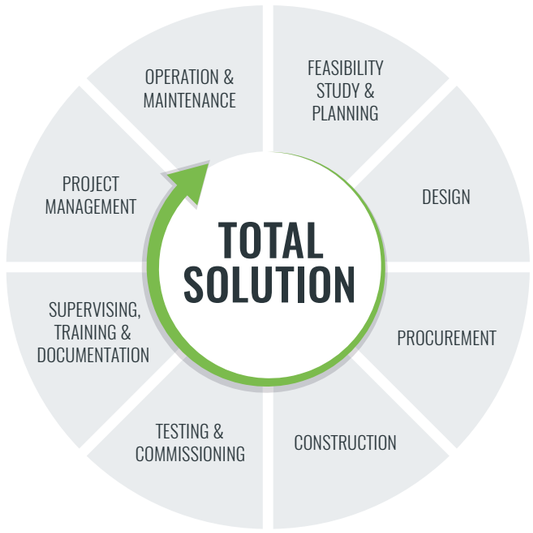
EIP Water Boosting opportunities - Innovating water

PURECO AFRICA - PRODUCT AND SERVICE PORTFOLIO

PURECO SOLUTIONS

We believe in people and with our highly qualified and experienced colleaques, we provide you with customized solutions, bringing you the added value in the following core fields of water management:

Pureco offers a variety of tailored service levels taking into consideration the importance of project integration. We work with you, focusing to keep your system running at maximum performance and at the lowest cost of ownership from the raise of your idea, through design, implementation, operation and maintenance.



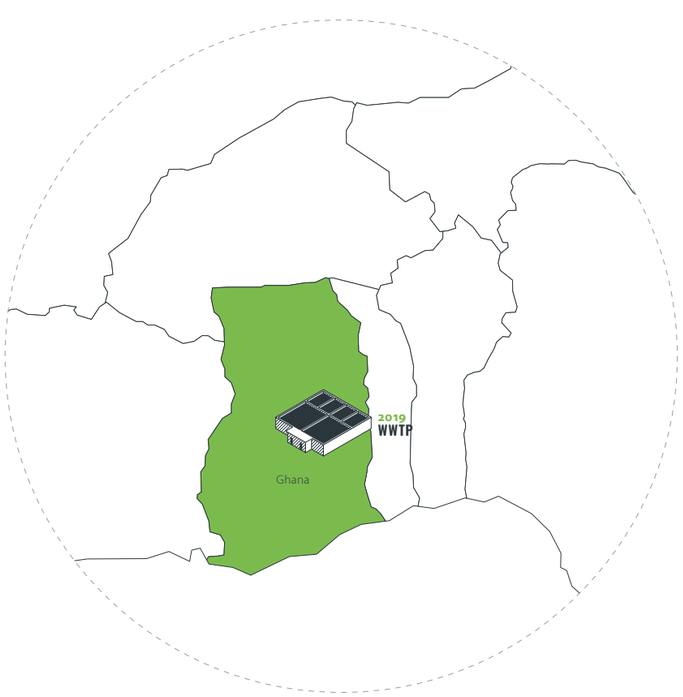
PURECO AFRICA - PRODUCT AND SERVICE PORTFOLIO

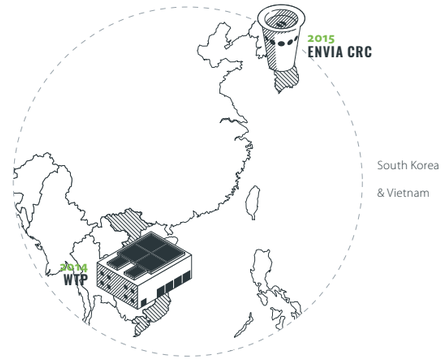
PURECO

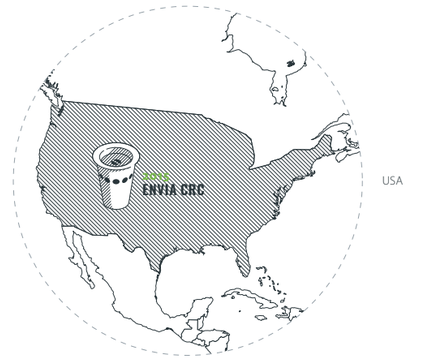
- Hungary
- Slovakia
- Czech Republic
- Romania
- Bulgaria
- Ghana

VIA PARTNERS

Germany	Sweden
USA	Finnland
France	Denmark
Poland	Serbia
Italy	Belgium
Qatar	Luxemburg
South Korea	Turkey
Vietnam	

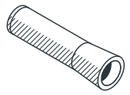






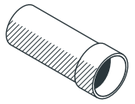
WATER TRANSPORTATION PRODUCTS

We offer reliable and long-lasting solutions for water supply pipes for both drinking water and sewerage networks. Among our water transportation products there are pumps for drinking water, irrigation, sewerage, firefighting and flood control.



Ductil iron pipes

- excellent product for No-Dig technologies
- easy to install
- up to 100 bar operating pressure
- with valves and fittings
- flexible and sustainable solution for firewater systems
- with FM Global certification



Glassfiber Reinforced Plastic (GRP) pipes

- corrosion resistant solution
- long lasting product
- light weight product, easy to transport and install
- elements between 6-8 meters
- DN 100-400
- smooth inner surface
- with valves and fittings

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Pumps

Fields of application:

- drinking water systems
- for irrigation
- for sewerage
- for firefighting systems

Types:

- single
- multistage
- vertical
- horizontal
- centrifugal

MOBILE DEWATERING PUMPING UNIT

CORRUGATED STEEL PIPES - CULVERTS, BRIDGES, OVERPASSES

The corrugated steel structures had been used in civil engineering for over 100 years. Today, buried, corrugated steel structures are widely used in construction around the world. Structures of this type due to the nature of their work, are often referred to as flexible.

Corrugated steel pipes make up complete systems used in civil engineering and can be use in projects such as:

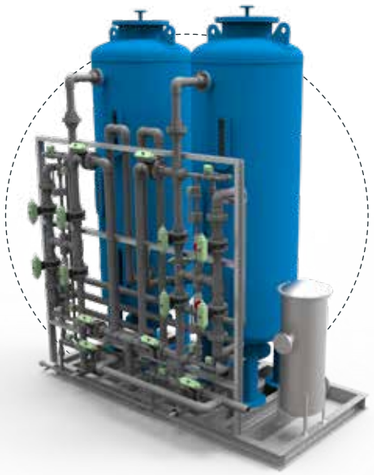
- culverts
- bridges
- tunnels
- under passed
- ecological crossing
- pedestrian tunnel
- hangars
- shelter
- warehouse
- stores for ammunition
- belt conveyor protection
- ventilating duct
- and for reinforcement and reconstruction of existing structures as well

DRINKING WATER PURIFICATION WITH MEMBRANE TECHNOLOGIES

Pureco offers special membrane solutions in the field of drinking water treatment. Moreover containerized, mobile water treatment systems are also available to provide drinking water from any kind of surface water or recycle and reuse secondary water sources for agricultural or industrial applications. Additionally, we provide special technology for arsenic and fluoride removal.

Microfiltration

Microfiltration (MF) is a physical membrane separation technique, separating suspended materials, algae, and some microorganisms according to their particle size. Particles larger than the pores of the membrane (0.1 – 10 micrometers) are fully removed. Applied membranes can be flat-sheet, hollow fiber, tubular and spiral wound. The process can be pressurized or vacuum driven (submerged design).

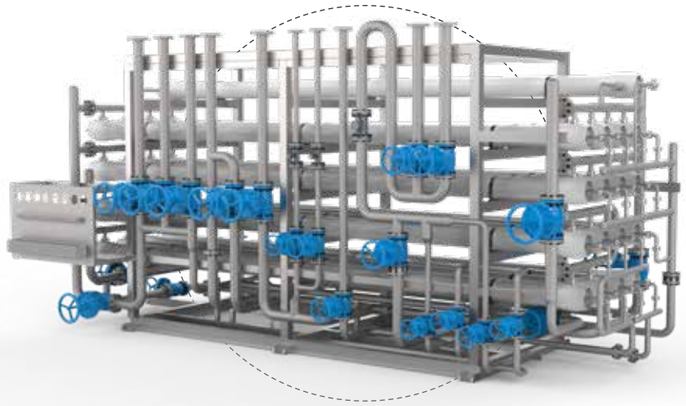


Ultrafiltration (UF)

UF is usually used for removal of particles and macromolecules from raw water. As one of its most dominant place within any technologies, it is responsible for the pretreatment phase, followed by a RO installation. In case high suspended solids are present in the flow to be treated, UF is often integrated into the process, but additional pretreatment units (e.g. microfiltration) prior to UF might be required to prevent damage of the membrane units.

Reverse Osmosis (RO)

Reverse osmosis (RO) is a water purification technology, uses semipermeable membranes to remove dissolved particles, bacteria and viruses, positioned after an appropriate pretreatment stage. In reverse osmosis technique, the applied pressure of the system is slightly higher than the osmotic one, in order to make the process occurring. Due to the relatively high pressure conditions, the majority of dissolved materials are retained on the pressurized side of the membrane, while the pure solvent passes through, providing high quality. It is widely used for sea water and brackish water desalination because of its high removal efficiency of dissolved solids (Na+, Mg2+, Ca2+, Cl-, etc.). The efficiency of the systems differs according to the applications, however the 70% of the feed can be usually considered as product.



CONTAINERIZED WATER TREATMENT SYSTEMS

Clean drinking water for everyone! There are several ways to protect and conserve existing water resources and to provide potable water. From engineering perspective, this task is primarily about developing sustainable, efficient and environmentally friendly water management designs, technologies and solutions.

Pureco offers containerized, mobile water treatment systems that are optimum, fast and highly flexible ways to provide drinking water from any kind of surface water or recycle and reuse secondary water sources for agricultural or industrial applications.

- in case of emergency, disaster or at temporary camps
- to grant sanitized potable water under increasing water scarcity
- in rural, isolated or less accessible areas
- at institutions (hospitals, hotels, schools, etc)
- if no elecricity is available (diesel generators, alternative power supply)
- providing drinking water from any kind of surface freshwaters (rivers, wells, lakes , etc.)
- ensuring potable water even from treated wastewater
- producing industrial water
- providing high quality water for industries

Systems are either modularly mounted on skids or fully integrated in 20' or 40' ISO containers - in both cases, the system can be easily transported. Each treatment plant is a unique system proposed and manufactured according to the particular specification and requirements of the customer.

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PURASET – ARSENIC, IRON, FLOURIDE, MANGANESE AND AMMONIA TREATMENT SOLUTION

Application possibilities:
Small communities as villages, schools, hospitals, etc.

Advantages

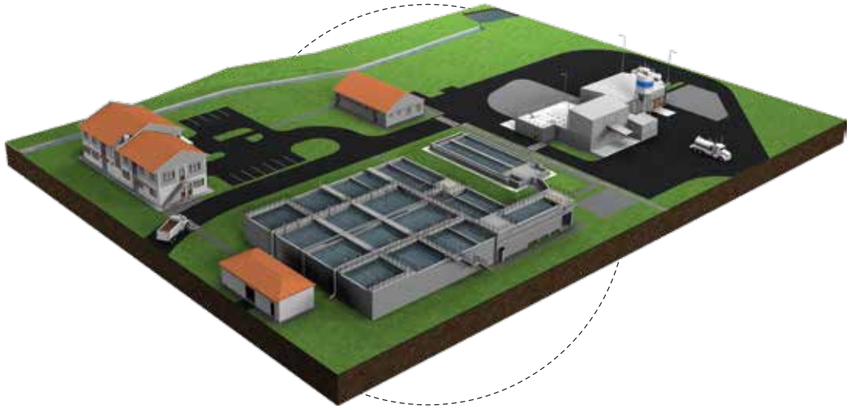
- simple use, simple maintenance, reliability
- remote monitoring on GSM – requires no special skills on site
- offers centralised, customer-friendly service
- complex, mobile modular technology
- chemical free technologies
- regenerable adsorbent technologies
- water storage is not needed
- energy efficiency – also with solar energy
- flow through design
- low operation cost

Modular water treatment system

- rural water supply
- water treatment plants
- prototype with 6m3/day
- developing to operate without electrical network
- no chemical needs
- customized, based on required capacity
- mobile system, easy to operate and relocate where needed (remote rural areas)
- online service support and monitoring system

COMMUNAL WASTEWATER TREATMENT

Based on our expert knowledge and our products, we offer the reconstruction of outdated sewerage treatment plants, or the construction of new systems - treating either seweraged wastewater or septic waters. Additionally we provide supporting services for the companies who are dealing with operation and maintenance of the systems.



We developed a sustainable and unique solution for Kumasi, Ghana for treating the generated sewerage and wastewater in an efficient and environmental friendly way. In-line with the local conditions and needs we design and build a tailor-made wastewater treatment plant in Kumasi not only providing optimal technological solution but giving priority to trainings as well for the operation and maintenance. By establishing the new, sustainable wastewater treatment plant with the capacity of 1,000 m³/d, the livelihood of more than 100,000 people will be improved as they can live in a healthier environment.

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WASTE WATER TREATMENT PLAN BUILT WORLDWIDE

40k
CUBIC METRE / DAY WATER CLEANED WORLDWIDE

420k
PEOPLE SERVED WORDWIDE

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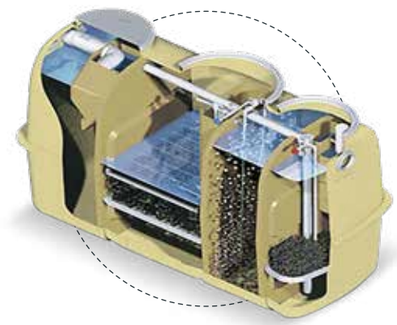
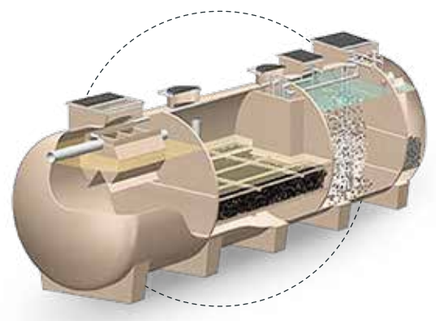
JOHKASOU ADVANCED DOMESTIC WASTEWATER TREATMENT TANKS

Domestic water treatment & management

There is the need to reduce the impacts of deteriorating quality of public waters (particularly enclosed water bodies, etc.) as a result of climate change, in areas that may face declining sanitation conditions. This is particularly applicable in response to the need to mitigate impacts in regions where water pollution is occurring due to urban population growth associated with economic growth, or due to rapid industrial development. Large Johkasou systems can process between 1 and 1,000 m³ daily. Effluent has a BOD of 20 mg/L.

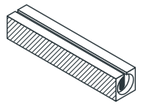


CAPSULE TYPE: 1~15M³/DAY



CYLINDER TYPE: 20~50M³/DAY

STORMWATER-DRAINAGE



Slotpipes

Depending on the volume of the surface, the nature and amount of utilization we provide slot pipes in several types and sizes.

Technical description

- robust body made of C45/55 XF4 type concrete
- high strength
- resistant to salts and chemicals
- perfectly watertight
- low absorbency

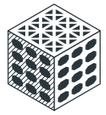
Benefits

- individual segments are relatively light and can be handled without lifting equipment.
- are designed for D400, E600 and F900 class traffic load
- no moving parts
- complete gully assembly including cast-iron grill, gully trap, cone element and gully shaft
- easy maintenance
- long life product

Fields of application for dewatering

- parking places
- roads
- highways
- tunnels
- airports
- petrol stations

STORMWATER INFILTRATION AND RETENTION



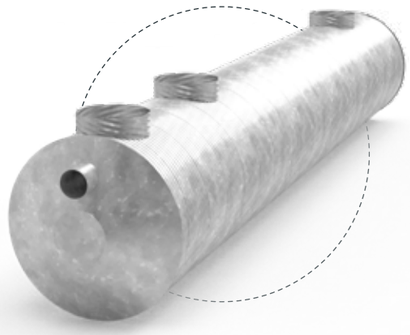
Underground infiltration and settlement boxes for rainwater

- heavy duty storm water infiltration system, variable in height – convincing in price and stability
- extremely high stability
- flexible in its range of applications, height degradation in 5 cm steps
- optimized connection accessories (horizontal/vertical)
- extremely durable hollow bodies of Polypropylene (PP)
- free storage capacity (cavity share ca. 95%)
- three-dimensional flow
- pipe connections from DN 100 to DN 500
- all inflows, outflows and transition points have been optimized

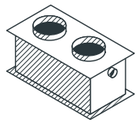
STORMWATER INFILTRATION AND RETENTION

Stormwater retention and infiltration in corrugated steel tanks, pipes

- space-saving infiltration - and storage system
- high capacity in pipes DN 1.0 – 2.9 m
- can be equipped with any manhole
- easy to control and maintain
- long life product
- customized, tailor made design



STORMWATER TREATMENT IN PLASTIC TANKS



Envia TNB

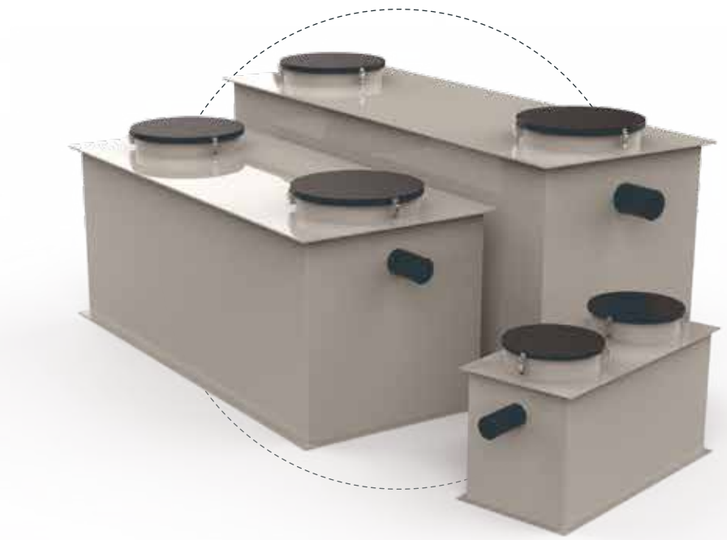
Due to the growth of road traffic and road networks a significant and increasing amount of dense gaseous, liquid, and solid pollutants – including harmful heavy metals – are polluting the environment and contaminate the precipitation running off the roads. Some of the contaminants are fuel residues, i.e. unburned fuel, to varying degrees burned fuel residue, materials used as additives, combustion end products, lubricating oils, and various greases. Other contaminants are remains derived from the operation of the motor vehicle's worn parts and friction. These primarily contain metallic components. Heavy metals are washed off into our surface and ground waters by precipitation falling on the road's surface thus harmfully affecting our health through damaging plants and vegetables cultivated along the motorways and roads. The pollutant retention in run-off rainwaters and storm water pre-treatment along road infrastructures is crucial. Future stormwater management and its challenges need to be consideredalready during the design phase of our urban and road infrastructures.

Advantages

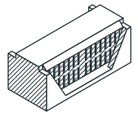
- cleaning capacity:0,5–30 l/s
- 100x, 200x, 300x sludge trap
- customized design (with pumps)
- easy to move
- lower installation
- small footprint

Fields of application

- underground garages, petrol stations
- hand car wash
- at smaller parking lots (< 500)



STORMWATER TREATMENT – OIL SEPARATOR



Special patented product to treat contaminated rainwater

ENVIA TRP is a sustainable and efficient solution developed by PURECO for filtering and retaining the contaminants washed away by stormwater, flowing down from linear engineering structures and paved surface such as roads, motorways, parking lots.

Advantages of the product

- wide-scale hydraulic capacities (0-400 l/s)
- heavy metal and microplastic removal
- made of corrosion proof materials
- easy to install
- small footprint
- waterproof, long-life solution
- robust construction, compact design
- less construction work required
- less earth work is needed
- lower investment costs than in the case of prefabricated oil separator equipment with a tank
- even without filter materials, it ensures protection against emergencies for any storage tanks with an open surface

Fields of application

- installable in open-surface ditches made for the drainage of stormwater coming from linear traffic facilities
- applicable to control the discharge and/ or overflow of small reservoirs or lakes should the overflow retain possible floating contaminants

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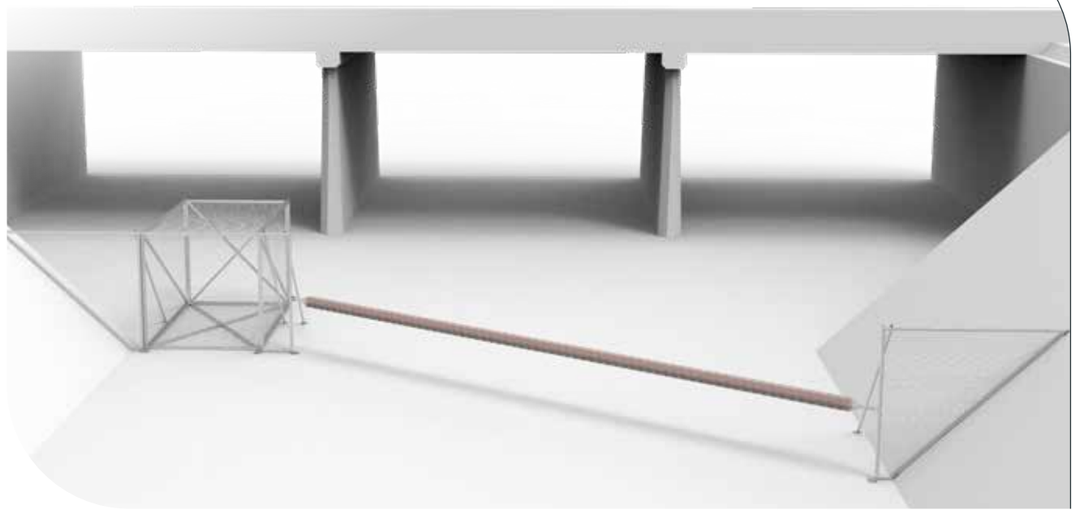
WASTE HARVESTING CAGE FOR GARBAGE REMOVAL FROM DRAINS

Stormwater runoff is rain or water that runs off the streets, parking lots, lawns, and other surfaces into drains that flow directly into local waterways.

When garbage and pollution enter the waterway, it can cause significant human and animal health risks. Water that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing and drinking.

PureWGC is engineered to capture gross pollutants such plastics and organic materials and also handle powerful stormwater runoff at urban areas, captures litter and debris in stormwater runoff and prevents gross pollutants from entering a river, stream or lake with the use of a special cage system.



- can be used to reduce and eliminate waste from drainage systems
- prevent pollutants and solid waste, carried by storm water from the local paved surfaces, from flowing into the natural water bodies
- cost-effective and environment friendly solution to collect waste from drainage systems
- easy to install, operate and maintain, when they get full, they are picked up with manual labour or a crane
- recyclable/non-recyclable materials can be easily separated from the collected waste
- minimal cost of maintenance
- short delivery time, instant impact

AIR TREATMENT

The unpleasant odour and smell in the atmosphere are often associated with industrial activities, especially within the area of municipal wastewater collection and treatment, at wastewater treatment and sludge treatment plants, near sewerage systems, at landfills and composting plants, during food or chemical industry. The VENTUS Biofilter system, using the biodegradability of microorganisms, is an environmentally friendly, sustainable, and safe solution to eliminate odour problems.

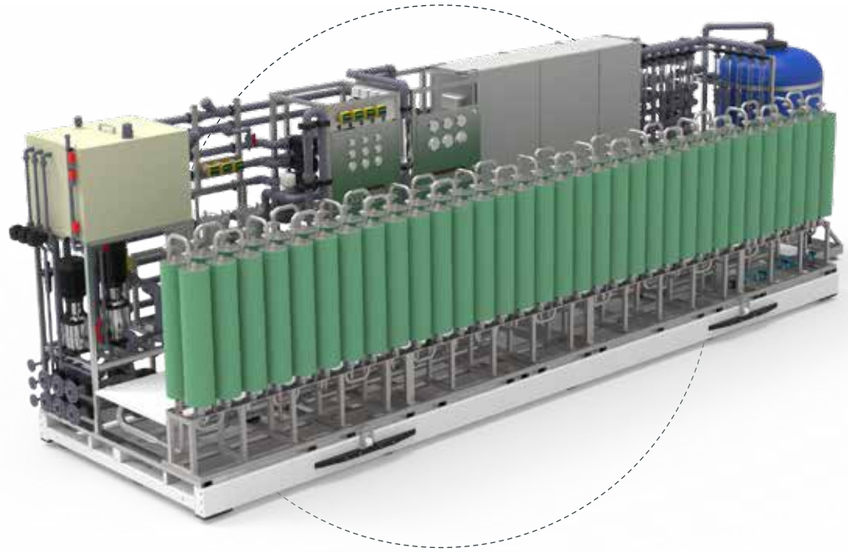
Systems from VENTUS Biodesodor family are available in different types (active, passive, with activated carbon), different sizes and 3–100,000 m³/h air treatment capacity, with purification efficiency of nearly 100%.

Believing in complex solutions we offer not only the biofilter system but several optional components such as gas scrubber, dust separator, air distributor (for multi-unit units) and optimisation of the operating cost (container units can be individually connected).

LANDFILL LEACHATE TREATMENT

Domestic waste, has been placed on communal landfills, contains highly concentrated biodegradable organic materials. Treatment of leachate (arising from its moisture and rainfall) is difficult due to its unstable characteristics, high organic and ammonia content, but is essential to avoid huge environmental risks.

Pureco provides turn-key, containerized leachate treatment units, equipped with Reverse Osmosis after suitable pre-treatment. Making the technology available in container makes it transportable, easy to install and also, purifying the dirtiest water of human consumption.



Membrane advantages:

- no sludge generation from pre-treatment process
- high rejection of contaminants such as COD; BOD; TDS & heavy metals etc.
- large surface area of membrane
- greater resistance to scalling and fouling
- low space requirement
- low flux

Main Technological Steps of PURE-RO/LTC:

- sand filtration to remove core TSS particles
- cartridge filtration to remove the fine TSS particles
- DT® designed in one, two or in three-staged configuration depending on the required discharge parameters and influent concentrations

WATER ENGINEERING CONSULTANCY SERVICES

Operation support

- sewerage capacity and quality development
- technology modernization and the increase of efficiency of existing facilities

Maintenance support

- maintenance and operational tasks of separating technologies
- planning, designing and dimensioning tasks

Feasibility studies

- environmental reviews, conducting operation tests, efficiency tests, water sampling and analysis
- site visits and assessments

Technical expertise

- technical condition, situation assessment
- review and optimization of existing infrastructure, technology
- long term asset renewal, and improvement programmes
- preliminary, feasibility studies
- pollution reduction schedules
- complex public utility network and system master-planning

Economic planning

- life-Cycle Costing (LCC)
- dynamic Cost Comparison (DCC)
- cost-Benefit Analysis (CBA)
- cost-efficiency Analysis
- option Analysis
- rate of Return Analysis
- financing Planning
- sensitivity Analysis
- risk Analysis
- evaluation of externalities
- environmental evaluation methodologies
- socio-economic impact assesment

REFERENCES

RESPONSIBLE WAY TO REUSE STORMWATER: FIREWATER

Gyöngyöshalászi, Hungary, 2017

Strabag

Apollo Tire new factory plant

stormwater management

ductil iron pipes, firewater system, slot pipes

3 km

From 2017, more than five million car tires are produced annually in the newly-built Apollo tire tire factory in Gyöngyöshalász. Pureco Kft. was able to deliver the underground ductile pipes and fittings needed for the factory's public utility and road construction work, the associated fire-fighting systems and the spinkler connection of the buildings after a long period of planning, preparation and professional testing. For sprinkler system mains line 16 bar pressure, 100-400 mm diameter, polyurethane-coated cast iron pipes were installed about 3,000 meters long. Moreover approx. 130 meters of high-capacity (F900 kN) slotpipes were also installed for dewatering the factory court and parking places.

complex solution / responsible industrial activites / ductile iron pipe / fire-water system / stormwater drainage and reuse

PURECO GRP PIPES HELP SUSTAINABLE WATER MANAGEMENT ON RIVER DRAVA

River Drava, Hungary, 2019

Ancient Drava Program, EU project

pressure pipe to transport water from the river

water transportation

GRP pipes

1,303 m

The so-called Ancient Drava Program is realized by European Union fund from the "Water Retention and Land Use Change" program. Within the framework of the project, 1,313 m pressure pipe is used made of long-lasting, corrosion-resistant, lightweight, fibreglass-reinforced polyester (GRP) pipes, diameter DN 1600 manufactured by ROREX Pipe Srl., distributed by Pureco. The 5,000 l/s of water to be lifted from the Drava will be transferred to a reservoir-distribution basin, from where smaller pipelines will supply life-giving water to the area, which is doomed to dehydration due to the incision of the Drava riverbed. The diameter of the installed pipeline, in addition to the given topographical and elevation line and a possible long-term development can also ensure the transmission of a higher volume of water with a volume flow of about 7,000 l/s.

GRP pressure pipes / 5,000l/s water to be lifted / DN 1,600

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INDUSTRIAL WASTEWATER TREATMENT PLANT AT THE SLAUGHTERHOUSE

Mélykút, Hungary, 2019

Hunent Co.

duck slaughterhouse

wastewater treatment

Mechanical cleaning, physical-chemical purification, aerobic reactors, tertial treatment

1,600 m³

In one of the biggest, newly-built slaughterhouse of Hungary 1,600 m³ of process wastewater and 80 m³ / day of municipal wastewater are generated on a daily basis. Pureco provided to treat the wastewater with the technology of flocculation, flotation, biological activated sludge system. The full implementation of the industrial wastewater treatment plant was done by Pureco: the design, construction, technology, electrical and monitoring system were also dedicated to us. The concentrations of the purified wastewater fully meet the expected limit values and we could give our expertise to another successful industrial wastewater treatment project.

industrial wastewater treatment /Pureco technology / treat 1,600 m³ contaminated process water on a daily basis

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NEW WASTEWATER TREATMENT PLANT BUILT AS A GREENFIELD PROJECT

Kumasi, Ghana, 2020

Zoomlion Ghana

wastewater treatment plant

wastewater treatment

modified (5 stage) Bardenpho process with pre-sedimentation

1,000 m³/d

In Kumasi, with more than 3 million citizens, only 7-10% of the wastewater is adequately treated. From an environmental and public health point of view the urgent development of new wastewater treatment facilities is indispensable for the city. The solution we provide solves the treatment of the collected septic water in a self-manageable way. By establishing the new, sustainable wastewater treatment plant the livelihood of more than 100,000 people will be improved as they can live in a healthier environment and Kumasi is able to significantly reduce its ecological footprint as well.

healthier environment in Ghana / new sustainable wastewater treatment plant / serving 100,000 people

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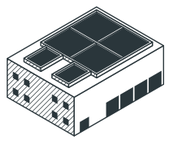
WATER-PURIFICATION AND SERVICE SYSTEM CONSTRUCTION IN VIETNAM



Quang Binh province, Vietnam, 2016

Vietnam Hydroproject Ltd.

drinking water treatment plant

drinking water purification

coagulation, flocculation, clarification, sand filtration, water storage

10,000 m³/d

The aim of the Central Vietnam, Quang Binh province water treatment project was the construction of water intake and water management structures to provide the region with healthy drinking water. There are over a 100,000 people living in the service area, north and south of the Gianh River. The project contributed to the increase of the quality of life of the low-income households and families, and to the development of basic infrastructure. With this project we contributed to provide healthy, drinking water for more than 100,000 citizens, that's why we are very proud of our cross-continental hard work.

drinking wate purification / surface water intake / serving 100,000 citizens

TURN-KEY, CONTAINERIZED LEACHATE TREATMENT UNIT MAKES A LANDFILL FOR A BETTER PLACE

Covasna, Romania, 2016

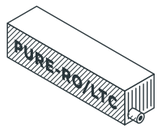
Keviép Ltd.

landfill

wastewater treatment

PURE-RO/LTC

130 m³/h



On the Covasna site 107,5 m³ raw landfill leachate is produced daily, in addition additonal 22,5 m³ sewage generated on the site to be treated as well. This represents a total of 130 m³ of contaminated water per day. We delivered the compact solution suitable to treat landfill leachate, mainly consisting of Hungarian-made equipment and unit, in a container. Pureco provides turn-key, containerized leachate treatment units, equipped with Reverse Osmosis after suitable pre-treatment. Making the technology available in container means transportable, complex, easy to install solution for purifying the dirtiest water of human consumption.

landfill leachate treatment / PURE-RO/LTC containerized system / membrane solution for healthier waters

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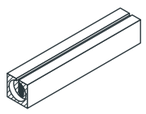
STORMWATER TREATMENT AT BUDAPEST AIRPORT



Budapest, Hungary, 2012

BUD Hungary

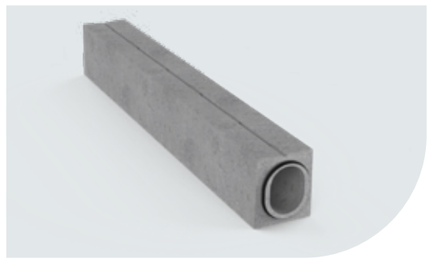
stromwater drainage at the airport

stormwater treatment

Slot Drain Profil III, VI

232 m, one outlet point

Due to the Budapest Airport's environmentally conscious attitudes over the past few years, several improvements have been made in order to protect the natural environment around the airport. In the frame of this initiative, the stormwater drainage system was updated from an old channel system with cast iron grating to a new mono-body slot drain system. With the Pureco slot drain system we replaced and old channel system in the length of 232 meters. It was unique because we used only one outlet point at the and of the slot drain line. Started with Profile III (DN 300) and with the transition we finished with our new development Profile VI (DN 600). The new drainage system works properly with our ENVIA TRP treatment system.



PURECO drain system / stormwater drainage / collection / slot-drain

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COMPLEX STORMWATER MANAGEMENT AT BUDAPEST AIRPORT

Budapest, Hungary, 2012

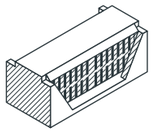
Kevei Mélyépítő Co.

airport

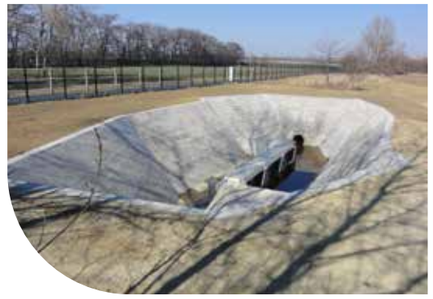
stormwater management

ENVIA TRP oil separators

5,800 l/s



Due to the Budapest Airport's environmentally conscious attitudes, several improvements have been made in order to protect the natural environment around the airport. In the frame of this initiative the stormwater treatment of the airport's paved surface with polluted river channels was developed, and an accident emergency system was created. In order to clean the contaminated stormwater; nearly thirty open trench ENVIA TRP sludge and oil separation equipment were installed. Pureco Ltd. is proud of this successfully completed project – due to the diversity of the project the knowledge, experience and collaboration of several other divisions of the company, from design, through licensing, to the product supplies and logistics, was needed.



patented solution / oil separation / stormwater treatment / 5,800 l/s cleaning capacity

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SUSTAINABLE STORMWATER MANAGEMENT AT THE BIGGEST EXPO AREA OF HUNGARY

Budapest, Hungary, 2020

Hungexpo Zrt.

revitalization program of the exhibition area

stormwater treatment

stormwater storage and reuse

1,200 m³/d

Significant revitalization program started at the biggest leading exhibition and conference organizing company in Hungary and Pureco is there. We installed corrugated steel tubes corrugated steel tubes with the capacity of 1,200 m³/d for sustainable stormwater storage and reuse. The installation was completed in only 2 days. Fast installation, less groundwork, longlife product and sustainable rainwater management system, this is what Pureco provided. The project is an excellent example of cooperation, expertise and innovation.

stormwater storage / 1,200 m³ corrugated steel tube / sustainable solutions

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SUSTAINABLE STORMWATER MANAGEMENT AT PENNY NETWORK

10 projects in Romania, 2019-2020

Penny Supermarket

rainwater retention at Penny shopping centers

stormwater management

retention tanks from corrugated steel

10 projects with more than 1,000 m³

Sustainable stormwater management is a keyword at the biggest shopping malls as well, such as the Penny network in Romania. Having built a very good professional relationship with Penny in Romania, we got the chance to provided innovative and sustainable solutions for the stormwater handling of the new Shopping Centers (in 10 sites in Romania). Retention with corrugated steel spiral tube technology resulted in the draining of the rainwater falling down on the covered parts of the shopping malls (paring place, roof, etc). Fast installation, less groundwork, longlife product and sustainable rainwater management system, this is what Pureco provided to Penny.

more than 1,000 m³ capacity / stormwater retention in corrugated steel tubes / fast installation / sustainable solutions

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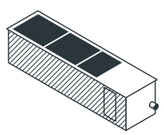
ODOURLESS WASTEWATER TREATMENT BY VENTUS BIOFILTER CONTAINERS



Szentendre, Hungary, 2019

water utility operator

wastewater treatment plant of the city

air treatment

VENTUS C containerized biofilters (3 pcs)

7,500 m^3/h

The existing wastewater treatment of Szentendre and neighbour towns, Hungary is under modernisation and reconstruction as the system did not fulfil the given requirements regarding the effluent limits and could not deal with the amount of the wastewater. The EU financed project will be finalized by the end of 2020. VENTUS biofilters from Pureco have been built in for the project, to treat of the odour air coming from the mechanical pre-treatment building, the sludge thickening and the sludge dewatering buildings as well. 2 pieces of VENTUS C 3000 and 1 piece of VENTUS C 1500 will treat altogether 7,500 m^3 air/hour, it means that this regional wastewater treatment plant can be operated without any smell. The VENTUS Biofilter system, using the biodegradability of microorganisms, is an environmentally friendly, sustainable and safe solution to eliminate odor problems.

VENTUS C Biofilter / containerized system / odor elimination / air treatment system

PHARMACEUTICAL COMPANY – INDUSTRIAL WASTEWATER TREATMENT

Hungary, 2011–2016

Xellia Pharmaceuticals Ltd.

pharmaceutical factory

wastewater treatment

SBR wastewater treatment plant

240 m^3 treated industrial wastewater / day

We delivered a two-stage wastewater treatment plant (WWTP) to one of the largest pharmaceutical market leaders in Hungary, called Xellia. The extension of the existing WWTP was necessary due to the rollout of new products. These new products contributed to the higher pollution concentration in the wastewater stream that could not be handled any more by the existing treatment plant. The new technology, as the first stage, consists of a drum screen, where most of the non-dissolved material is removed. Moreover, it is a safeguard for the down-stream instrumentation within the plant. As the second stage an aerobic sequence batch reactor (SBR) is dedicated to remove the dissolved materials being present in the wastewater stream. The surplus sludge is dewatered by a cloth filter before it is transported to an incineration plant.

industrial wastewater treatment / pharmaceuticals / SBR / two-stage system / 280 m^3 treated wastewater on a daily basis

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SEWAGE CAPACITY DEVELOPMENT FOR PET FOOD HUNGARIA LTD.

Hungary, 2015

PetFood Hungaria Ltd.

pet food manufacturer

wastewater treatment

pools & storage tanks

100 m³ treated industrial wastewater / day

In the development, carried out by the main contractor, Pureco Ltd., the partner is Nijhuis Water Technology, with their BV treatment technology. The flotation equipment, provided by Nijhuis Water Technology, is designed to separate floating and undissolved materials in water or process fluids. The use of high quality, corrosion resistant materials is space efficient, the construction time is minimal, it is easy to operate, the collection and delivery of deposited materials is automated, and in order to achieve the optimal slurry deposition the water height is adjustable. Pet Food Ltd. furthermore renovated the drinking water supply on site, the internal roads, pavements and sidewalks. The electrical technology and control engineering works were completed on schedule as well.

industrial wastewater treatment / animal rendering / pet food / flotation technology

AWASH-KOMBOLCHA-HARA GEBAYA RAILWAY PROJECT

Ethiopia, 2016–2018

Yapı Merkezi

pedestrian and animal crossing

stormwater management

corrugated steel structure type MultiPlate

1000 hydraulic culverts and over 60 underpasses

426 km long Awash – Kombolcha – Hara Gebaya railway Project is being constructed by Yapı Merkezi as a single track starting from the northeast of the city of Awash, extending towards North through the city of Kombolcha and eventually reaching to the city of Weldia. The Project is high important and crucial due to the establishment of connection between northern and eastern Ethiopia and support to the traffic of passenger freight, as well as the contribution to import and export through the harbor of Djibuti. The project includes over 1,000 hydraulic culverts and over 60 underpasses. All works pertaining to hydraulic culvert and underpass were carried out by Viacon.

corrugated steel structure at railway / culverts and underpasses / corrosion protection

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SOUTH SUDAN IRRIGATION PROJECT

Sudan, 2008

new canal branch extension project

irrigation shemes

water transportation

flow centrifugal pipes

12 pipes – floating units over the river, 60 pumping units

At the time of the establishment of the New Halfa Scheme it was the second largest irrigation project in the Sudan after the Gezira Scheme, still the largest irrigation scheme in the world (Sørbø 1985). The New Canal Branch extension project with total capacity 432,000 m³ to be used for irrigation and for agriculture purposes and next stage to be used for Pivots usage.

water transportation / horizontal mixed flow centrifugal pipes / floating units / pumping stations

FEEDING WATER PROJECT EGYPT

Off Suez/Soukhna Road – Egypt, 2016–2019

Egytian construction companies

booster and feeding stations

water transportation

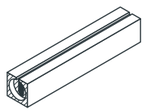
horizontal split casing centrifugal type with electric motors

5 booster stations, 6 feeding stations

Egypt is building the New Capital to create many opportunities for housing and employment, putting in mind that Egypt's population will almost double in the next 40 years. The goal is also to eliminate the crowdedness that is one of the biggest problems now in Cairo because of the increasing population. It is needed to provide water for the new city, so 5 units of booster stations and 6 units of feeding station had been built. Horizontal Split casing centrifugal pipes were used with electric motors.

water transportation / booster station / feeding station / centrifugal pipes

STORMWATER DRAINAGE FROM PAVED SURFACE SUCH AS PARKING LOTS



+100 projects in Europe, 2014–2020

petrol stations, construction companies

stormwater drainage at petrol stations and along the highways

stormwater management

M profile slot drain

+100 projects with more than 10 km drainage

Micro-slot drains are a modern, fast, and efficient way of draining excess water from roads and surfaced areass ensuring efficient draining of excess water from surfaced areas even during extreme rainfall, its transport by means of high-capacity flow profile and removal to a storm sewer. They also collect contaminated water from road surfaces so that it does not meet the surrounding environment. Despite the large flow capacity, the channels are relatively narrow and have excellent self-cleaning ability. During the previous decades' tens of kilometres of slot drains have been installed in Europe by Pureco to provide sustainable and efficient solution for dewatering parking lots and highways, main roads.

more than 10,000 m length / stormwater drainage by slot pipes / fast installation / sustainable solutions

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