







ROEDIGER® VACUUM SANITATION ROEDIGER® VACUUM SANITATION – SUSTAINABLE SOLUTIONS

Is it possible to create sustainable cities without sustainable water solutions -



if this is the water system today?

Picture: Adrian Dennis/AFP



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Is a sustainable city only the addition of sustainable buildings -

or do we have to look further?

www.fluensys.ro

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Vacuum Sanitation is found everywhere, where we find natural or systemic water scarcity or the specific need for a flexible system







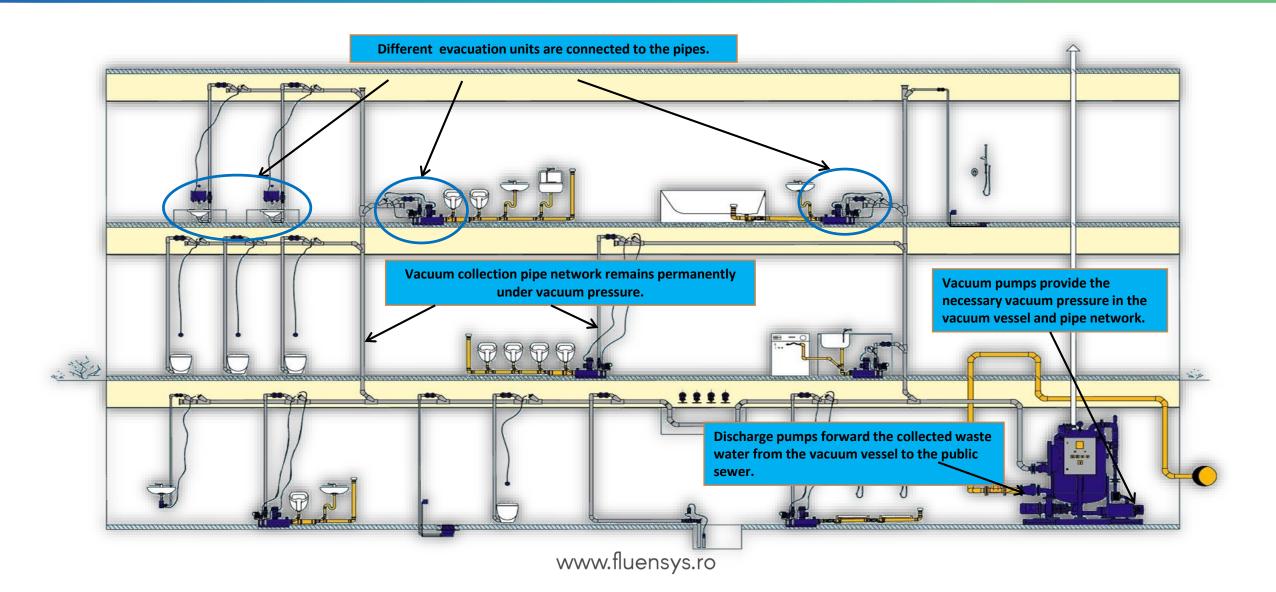




ROEDIGER® SANITATION – HOW IT WORKS?

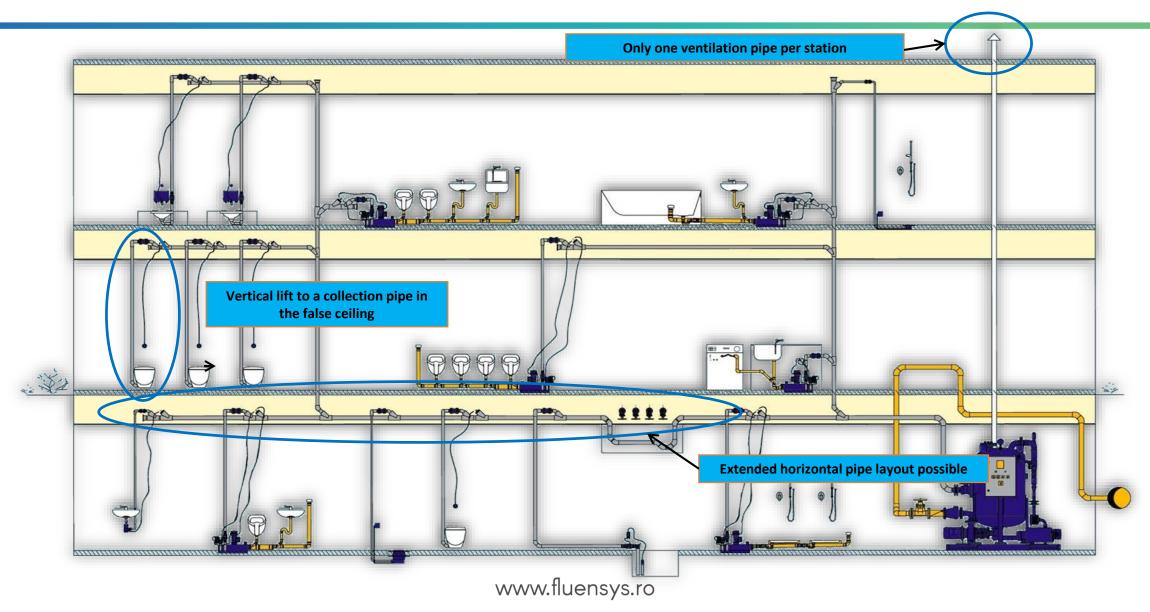


LAYOUT OF A VACUUM NETWORK FOLLOWING DIN EN 12109





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ROEDIGER® VACUUM SANITATION LAYOUT OF A VACUUM NETWORK FOLLOWING DIN EN 12109

Vacuum Sewer Pipe Network

Up to 2,500m long pipe sections without slope and without any lifting devices Up to 40,000m total network length on a single vacuum station Up to 4.5m lift height (lifting from sanitation unit to false ceiling) Up to 90 connections to a single pipe

Pipe material

Saint-Gobain PAM-VAC cast iron pipe system with SMU connectors Tested and certified acc. DIN EN 12109 Fast and easy installation Completely dismountable and reusable





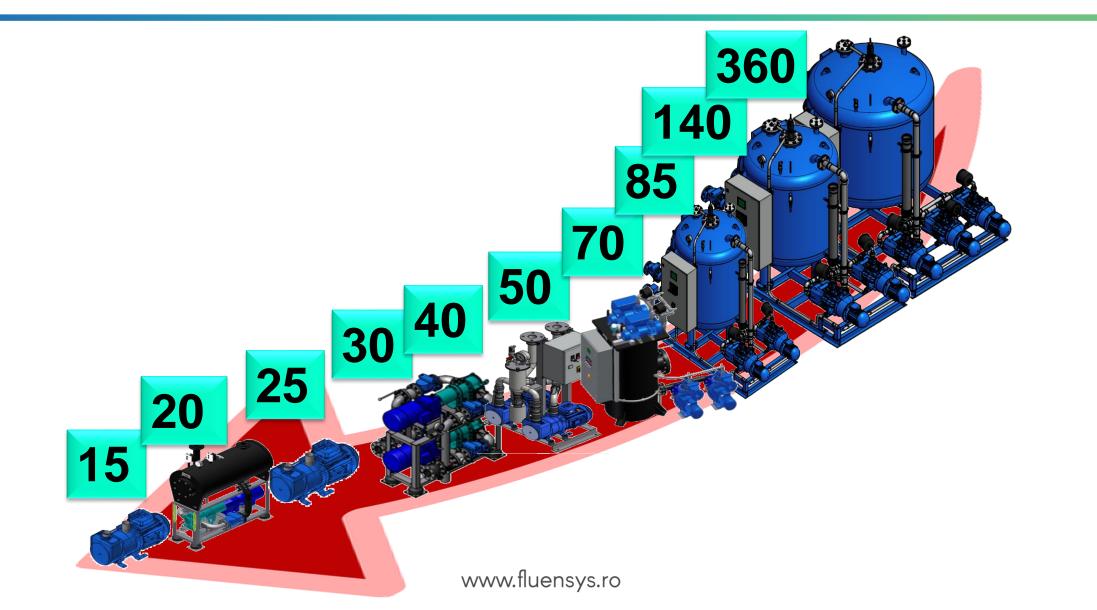
ROEDIGER® VACUUM SANITATION VACUUM STATIONS



COMPACT STATIONS ROEDIGER® Compact Station PE 70 / Compact Station Type 140

ROEDIGER® VACUUM SANITATION VACUUM STATIONS







ROEDIGER® VACUUM SANITATION VACUUM EVACUATION UNITS

ROEDIGER® SANITATION COMPONENTS VACUUM EVACUATION UNITS - ROEDIGER® SILENTIUM TOILET





Psst !

Already heard about it?

The quietest vacuum toilet worldwide -ROEDIGER[®] Silentium







ROEDIGER® Vacuum Technology combined with Laufen design

A contemporary design that suits VIP restrooms as well as private bathrooms, as well as office building sanitation facilities and public toilets – that is the Laufen Pro design. Carefully re-designed by the renowned Peter Wirtz the PRO S design line is today representing a portfolio of sanitation ceramics, faucets and furniture that satisfy the highest standards.

Thanks to slim silhouettes and clearly defined radii, the PRO S series has a light and elegant appearance without compromising on the functionality. The clear number one choice for your complete bathroom solution in public buildings!



ROEDIGER[®] SANITATION SYSTEMS	CONVENTIONAL SYSTEMS
Simple floor by floor planning parallel to water supply pipes and other utilities	Complicated planning, bound to down pipes and achievable slope
Small diameter pipes, no real slope - ideal for false ceiling installations with restricted space	Larger diameter pipes, significant sloping and larger space requirement
Minimization of core drillings and fireproof bulkheads	Many core drillings for downward pipe stacks, large amount of fireproof bulkheads
Elimination of lifting equipment and base sewer pipes	Lifting stations and base sewer pipes are required



Simple floor by floor planning parallel to water supply pipes and other utilities

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Minimization of core drillings and fireproof bulkheads

Elimination of lifting equipment and base sewer pipes

Largest diameter in the Kiev stadium: DN100





ROEDIGER[®] SANITATION SYSTEMS	CONVENTIONAL SYSTEMS
Easy over- and under-passing of obstacles	Bypassing of obstacles only with lifting devices
Instant re-planning and re-routing during the construction phase is simple	Re-planning during construction is complicated and time intense
Conversion of the system is possible during operation (e.g. additional toilets etc.)	Conversion of the system is very complex and will affect existing infrastructure through all floors
Dismantling of entire system is quite simple and material can be reused	Dismantling and reuse of the system is hardly possible



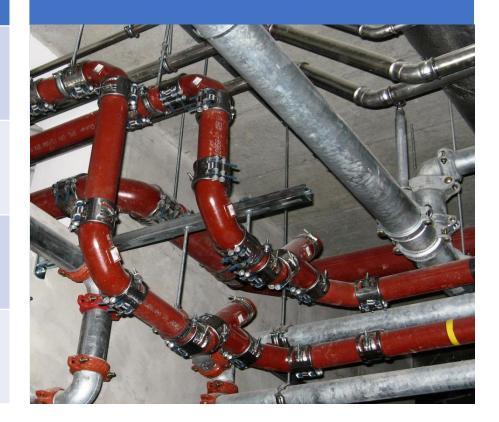
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EXTREME FLEXIBLE PIPE ROUTING





ROEDIGER[®] SANITATION SYSTEMS	CONVENTIONAL SYSTEMS
Separation of waste water streams (black, grey, grease wastewater) is easy - enables water reuse	Separate collection of waste waters is difficult due to hydraulics
No leakages even in case of pipe damages - no potential for damages	Pipe damages will lead to (often undetected) leaks - high potential for damages
Immediate detection of malfunctions and easy location of leakages. Closed system - no odour and noise emission	Malfunctions and blockages are often detected late and difficult to fix. Open gravity system with risks of odours and noise from conveyed solids
No flushing rim: effective injection nozzles and efficient waste water suction - better hygiene	Flushing rim: dirt and bacteria sediments, inefficient flushing - poor hygiene - high cleaning demand



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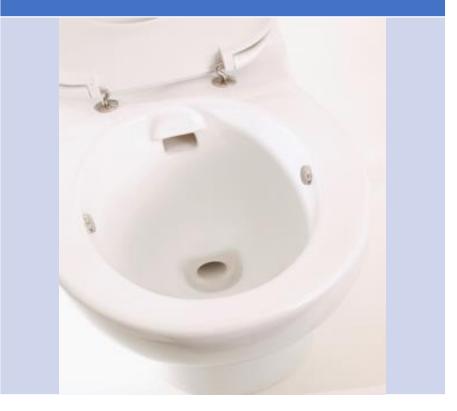
No leakages even in case of pipe damages - no potential for damages

Immediate detection of malfunctions and easy location of leakages.

Closed system - no odour and noise emission

No flushing rim: effective injection nozzles and efficient waste water suction - better hygiene

NO FLUSHING RIMS - EASY CLEANING





ROEDIGER® SANITATION SYSTEMS	CONVENTIONAL SYSTEMS
WC water consumption 11 / flush Urinal water consumption 0.51 / flush	WC water consumption 6-9I / flush Urinal water consumption 3-4I / flush
No flushing of the system required - real water saving without any hidden drawbacks!	Standard water saving tabs and units require flushing of the system, thus in reality consuming significant amounts of water
 ROEDIGER[®] sanitation systems allow: waste water separation 	Conventional systems mean: • combined sewer systems
 reuse of waste materials 	 waste of waste materials
 conservation of resources 	 waste of resources
 multifunctional buildings 	 use-related buildings
high future viability	low future viability



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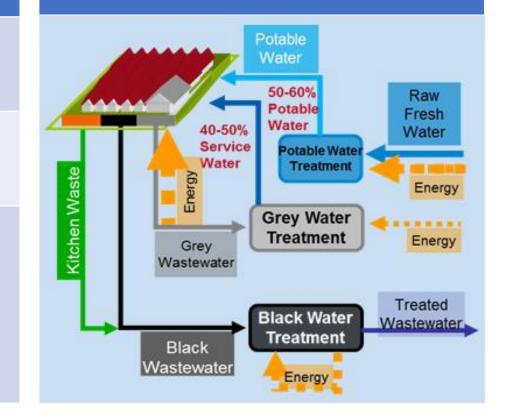
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ROEDIGER[®] sanitation systems allow:

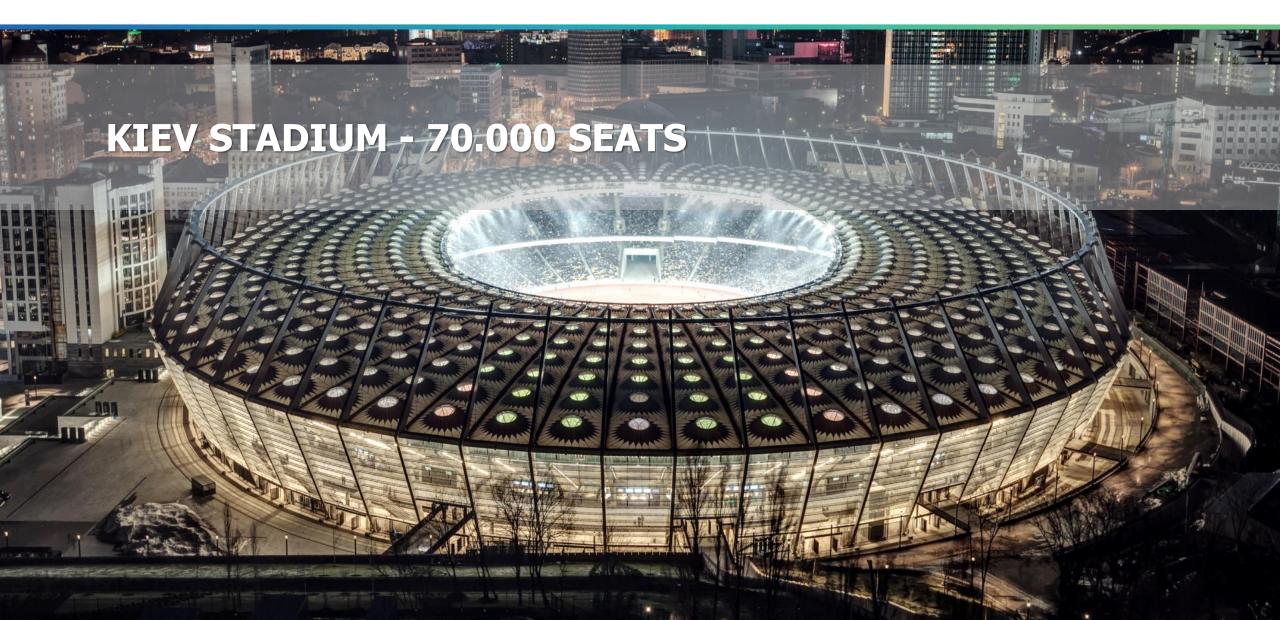
- waste water separation
- reuse of waste materials
- conservation of resources
- multifunctional buildings

high future viability











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SHIPS GERMAN NAVY IS BASED ON SANITARY VACUUM SYSTEMS WITH ROEDIGER® TECHNOLOGY

SEABOURN ENCORE

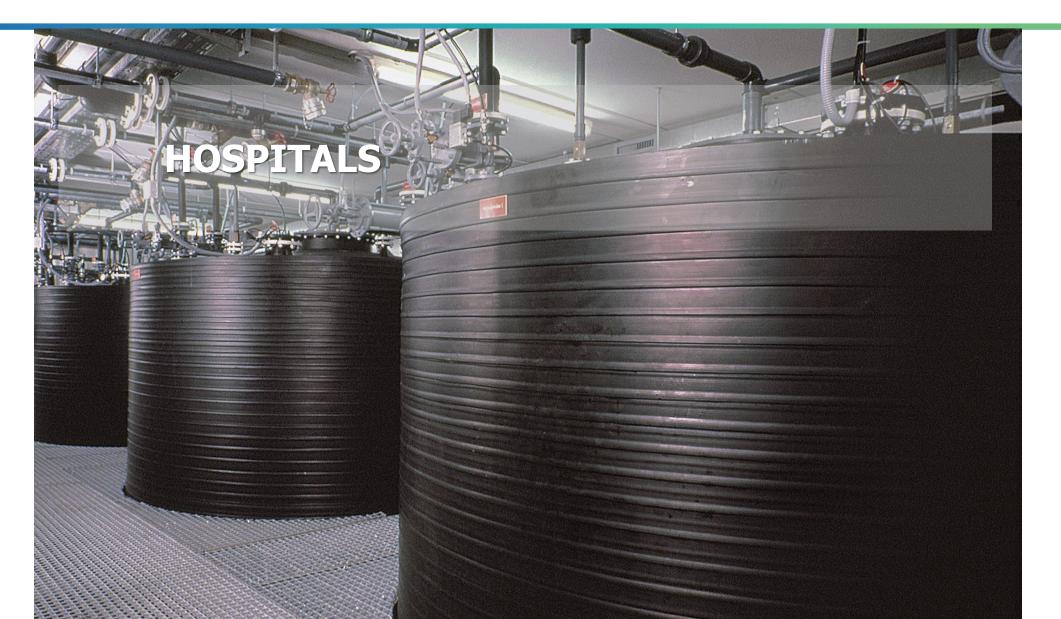
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MARINA SOME OF THE WORLD'S LARGEST PORTS ARE EQUIPPED WITH THE VACUUM - MARINA ROEDIGER SYSTEMS

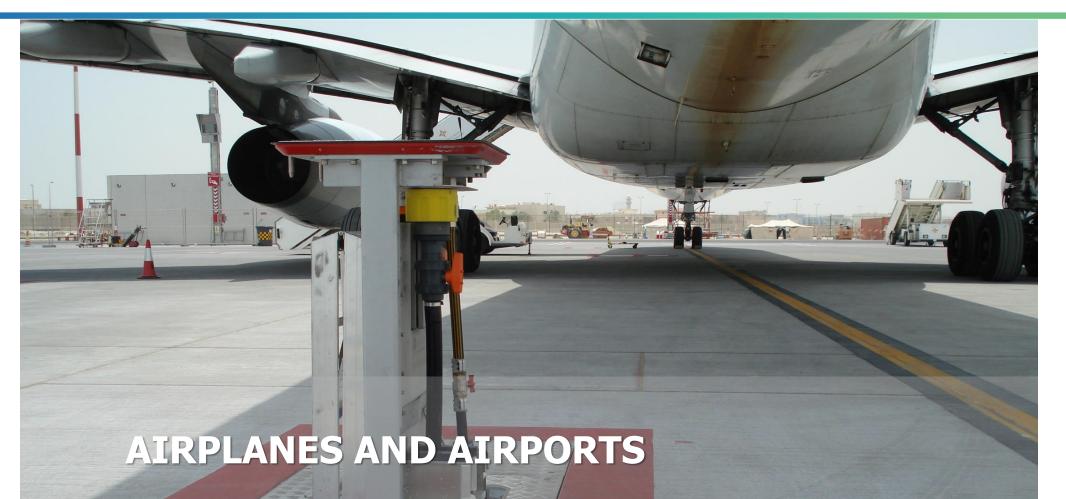






TRAINS THE FASTEST HIGH-SPEED TRAIN EVACUATION SYSTEM IS A ROEDIGER VACUUM SYSTEM











ROEDIGER® VACUUM SANITATION ISTORIA SISTEMELOR SANITARE CU VACUUM - APLICATII

ROEDIGER HAS INSTALLED THE MOST LARGEST VACUUM SYSTEM IN THE WORLD



THANK YOU!