



Roediger

RAILWAYS

Supply and disposal solutions for rail companies:

**Top speed for every train - efficient
technology for shorter downtimes**

A brand of
Aqseptence Group



Extensive Experience - Extremely Short Downtime

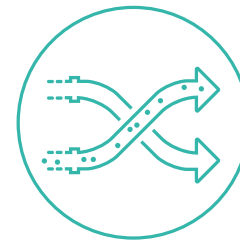
Drive in, service, get back on track: The profitability of trains is, not least, the result of covering many kilometers with minimal downtimes for service and maintenance. We have mastered this for decades, specifically for rail companies worldwide. Our vacuum units and systems for filling drinking water and disposing of wastewater impress with their state-of-the-art high-tech features and digital control elements, all while demonstrating robustness in tough everyday maintenance conditions. All the knowledge that we gather with our systems worldwide is consolidated in our specially established competence center for railway operators - so every customer benefits from a pool of experience that has been accumulated over decades, which then comes to fruition in every new project.



Flexible technology, strong details - what makes Roediger® systems so special?

There are reasons for our success on the world market. Discover the most important ones.

Whether it's a new system or the modernization of existing infrastructure, together we can turn your wishes into reality.



At home all over the world: The Roediger® extraction pistol type UP is used in dozens of disposal systems - reliably, efficiently and quickly.

Fulfill standards. Convince with competence.

What dimensions does my system need? Will it be installed indoors or outdoors? Does it need to be mobile? As a customer, you rightfully expect satisfactory solutions for your requirements and wishes. But in our experience, something else needs to be clarified first: Does the company of your choice even know your market? And quite simply: Can it supply technology that is in line with your country's specific technical standards?

A complex question, but our answer is quite simple: Roediger® supply and disposal systems comply with all major industry norms and are compatible with all major standards. In Asia. In Australia. In America. And in Europe.

We build our consulting and engineering services on this important platform. The principle here is: we make your challenges our own, whether it's specific problems that need to be solved on site or special technical requirements. For more than 30 years, we have been tackling every new task with the combined expertise and passion of our entire engineering and project team. We draw on tried-and-tested solutions and develop new ones. We listen, advise and are not afraid of test runs or changes. This results in systems that not only simply work, but also satisfy our clients in daily operation.

Deliver top performance. Inspire with technology.

Easy handling, incredible speed - all with the lowest possible personnel effort. This is how we envision the ideal service station - and this is exactly what we develop our high-tech products for.

A perfect example: the automatic Roediger® extraction pistol type UP. It comes in several configurations depending on requirements and enables the simultaneous emptying of numerous wastewater containers by a single operator. The pistol is connected using an easy-to-operate one-hand locking mechanism and triggered at the touch of a button. After emptying the wastewater tank, the valve of the extraction pistol closes automatically, allowing the operator to empty other wastewater tanks simultaneously - all in a hygienic, drip-free, and odor-free manner. Additionally, the pistol is vacuum-controlled and does not require a power supply for the disposal process.



High-performance service for high-speed trains

Spotlight from practice - Roediger® vacuum technology in use

Hamburg, Kiev, Beijing, Oslo, or Ontario: Roediger® solutions for railway operators and train depots are in constant use in many places around the world. While the level of technical maturity runs like a common thread through all systems, the dimensions could not be more different: Hall or open field, stationary or mobile, single site or giant facility with over 100 supply and disposal stations - the Roediger® railway team literally masters every terrain. The effectiveness and efficiency of this process become apparent when you examine one of the systems closely.



ICE maintenance depot Cologne-Nippes - service point for ICE 4 trains

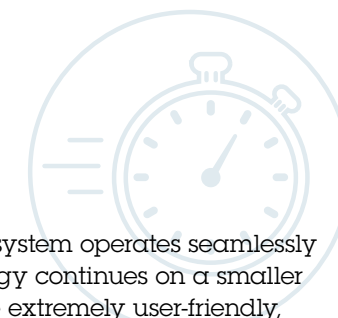
At 10.30 pm, the white train with the characteristic red stripe glides almost silently into the hall - and appears to have no end in sight. At 346 meters in length, today's twelve-car train rolling in is not even one of the largest of its kind; the thirteen-car units are over 30 meters longer. Deutsche Bahn AG maintains over 130 of the latest ICE trains, operating them as an ultra-fast and sustainable transport system between Kiel and Rosenheim, as well as between Saarbrücken and Stralsund. An inspection is due every 8,000 kilometers, which includes servicing for wastewater and fresh water supply and disposal. The central contact point for the ICE 4 trains is located at the junction of the most important ICE routes - Cologne-Nippes.

A maintenance hall of superlatives

At 443 meters long, the maintenance hall in Cologne-Nippes dwarfs the train that has just arrived - a train that doesn't have undivided attention, as three more have rolled into the four-track hall alongside it. This facility can service up to 16 trains, night after night, with most work occurring between 6 p.m. and 6 a.m. for maximum efficiency. Maintenance tasks are performed both indoors and outdoors, with an additional indoor cleaning system outside the depot. Roediger® provides one containerized vacuum station for the maintenance hall and another for the outdoor area, enabling Deutsche Bahn to conduct a high volume of work with minimal downtime. Inside the maintenance hall, there are numerous wastewater disposal shafts equipped with hose reel systems and extraction pistols, as well as water filling shafts. Outside the maintenance hall, supply & disposal modules and cleaning cabinets have been installed.

It's all over in 30 minutes

Just as the entire vacuum system operates seamlessly on a large scale, this synergy continues on a smaller scale: the systems used are extremely user-friendly, reliable, and fast. Moreover, the technology requires minimal manpower - an increasingly important advantage during times of skilled labor shortages. However, the greatest advantage of Roediger® technology is evident when you consider the clock: despite the train's immense length, numerous tanks, and extensive service requirements, the ICE is ready for use again in an incredibly short time. By the time it exits the hall, it's just a few minutes past eleven - the entire process taking barely more than half an hour.



Core components for train depots:

Roediger® vacuum stations

- Vacuum stations mounted on frames - pre-assembled and factory-tested
- For permanent negative pressure in the entire network
- Large systems with powerful vacuum for large train depots with individual arrangement of vacuum containers and M&E equipment

Roediger® supply and disposal modules

- Multifunctional cabinets for wastewater disposal and freshwater supply systems
- Automatic flushing of the fresh water supply to prevent germ formation
- Clear separation of wastewater disposal and fresh water supply components to ensure hygiene standards

Roediger® cleaning cabinets

- Cleaning cabinets for cleaning the inside of trains



Matthias Pietsch about

The art of constantly reinventing yourself

Roediger® maintains its own competence center for railway operators

Smart solutions from Roediger®: Inform. Control. Optimize.

Roediger® offers smart digital systems specifically for railway solutions that provide operators with important information for optimization:

- Monitoring and remote diagnosis of the entire system
- Fault detection and exact localization in real time
- Possibility of automatic troubleshooting

With 30 years of successful system installations worldwide, solid expertise is inevitable. However, it's equally important to continuously broaden horizons, tackle new challenges, and consistently surprise the market with innovative ideas.

To ensure this, Roediger® consolidates all railway experience into a specialized competence team. Their task is to distill knowledge for all employees' use, while also ensuring ongoing learning through participation in key events and courses. This ensures early recognition of trends or market needs, guaranteeing that customers always receive the exact technical solutions they require.

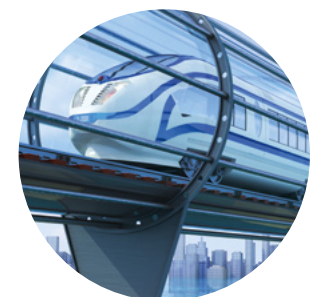
Matthias Pietsch is one such employee, serving as a project engineer at Roediger® Vacuum GmbH's railway competence center for over a decade.

Project responsibility:

"The dedication to keeping one person responsible for a project from inception to completion is a cornerstone of our approach. As an engineer, my involvement spans the entire project lifecycle, from initial planning and tendering to cost estimation, installation, and commissioning. Crucially, I'm not just overseeing these stages remotely; I'm actively collaborating with the customer on-site, ensuring seamless execution and satisfaction at every step."

Efficiency:

"Time management is crucial in today's context, particularly concerning the supply and disposal of trains. We play a significant role in this aspect by greatly reducing service times through efficient handling, thus rendering the system highly profitable for the operator."



Future:

"In the future, operators will increasingly need to have precise insights into their systems: How efficiently are they operating? Do they provide detailed logs of work performed? How can issues be swiftly addressed? We're already broadening our scope to include predictive maintenance, enabling customers to proactively address potential issues and prevent faults before they occur."

It is solely thanks to their maintenance technology that our systems are so efficient and profitable for operators."

Roediger®: Global trendsetter for vacuum technology



Roediger® has solidified its position as a leading system supplier for vacuum technology through innovative solutions, sophisticated engineering, deep technical understanding, and a strong commitment to providing expert advice and exceptional service.

Our work is based on the transportation of wastewater by vacuum - a highly efficient and sustainable technology that we use in its entirety:

With **sewer solutions** that ensure a state-of-the-art, scalable infrastructure even under the most difficult external conditions.

With **sanitation technology** that enables previously unimagined architectural and planning freedom - and at the same time creates completely new opportunities for resource recovery.

With an **all-inclusive offering for railway operators** that takes train maintenance to a whole new level.

And with a **portfolio of additional services** that also guarantee the fault-free and efficient operation of vacuum systems in the long term.

One team, one task: Services beyond the norm

Plan, build, commission - and then what? For us, it goes without saying that we will continue to be available to you after a project has been completed - day in and day out, around the clock. After all, technology is developing at breakneck speed, constantly creating new possibilities - and we want you to be able to benefit from this. Each of our international service teams stands for its own core competence, ensuring your 360° support:



CONSULTATION



MAINTENANCE TRAINING



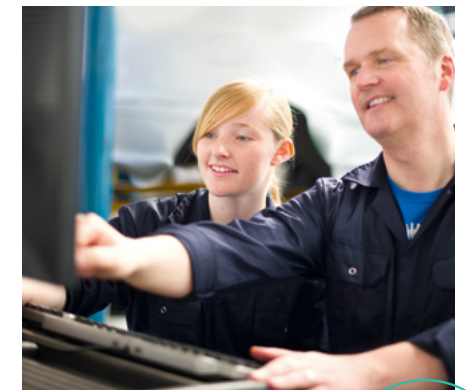
Wisely invested capital:
With a maintenance contract, you ensure that your system undergoes regular inspections to identify any signs of wear before they can lead to significant consequences.

Helping you to help yourself:
Through intensive training sessions, we transfer our knowledge to your employees, empowering them to gain a deep understanding of the system and operate it flawlessly.

SPARE PARTS

Troubleshooting in day-to-day operations:
If you encounter a problem or feel that your system could be optimized further, you've come to the right place. We're available 24/7 to address any questions you may have and provide long-term solutions. Whether it's piston or membrane valve technology, whether the systems were installed by us or by third parties, we are here to support you and ensure your system operates at its best.

Replace or repair:
You can always rely on our spare parts service. With around 10,000 items in stock, we are able to help you quickly and reliably.



MODERNIZATION

Always up to date:
Our systems are designed for a long service life. At the same time, their design also allows them to be upgraded or retrofitted at any time with the latest monitoring options - or simply with the latest generation of vacuum technology.



More information?

Are you interested in our company or would you like to find out more about our solutions?

Then simply contact us by telephone on +49 6181 309-275

By e-mail at info@roediger-vacuum.com

Or visit us online: www.roediger-vacuum.com



RAILWAYS

The most important facts at a glance

Vacuum technology for trains and rail depots - that means faster, more efficient, and reliably clean supply and disposal for your trains.

Benefit from strong features:

Efficient:

Simultaneous and fully automatic maintenance of several wagons by a single operator

Drip-free:

No leaks, no wastewater leakage, ensuring safety for the environment and staff, no risk of smear infection

Odorless:

Completely closed system, no health risks, no inhalation of aerosols

Hygienic:

In accordance with the latest hygiene norms and standards, such as the German Federal Railway Authority's Infection Protection Act

User-friendly:

Intuitive and convenient operation; trouble-free operation by semi-skilled and/or frequently changing operators without difficulty

Reliable:

Robust system with redundant components



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SCAN ME