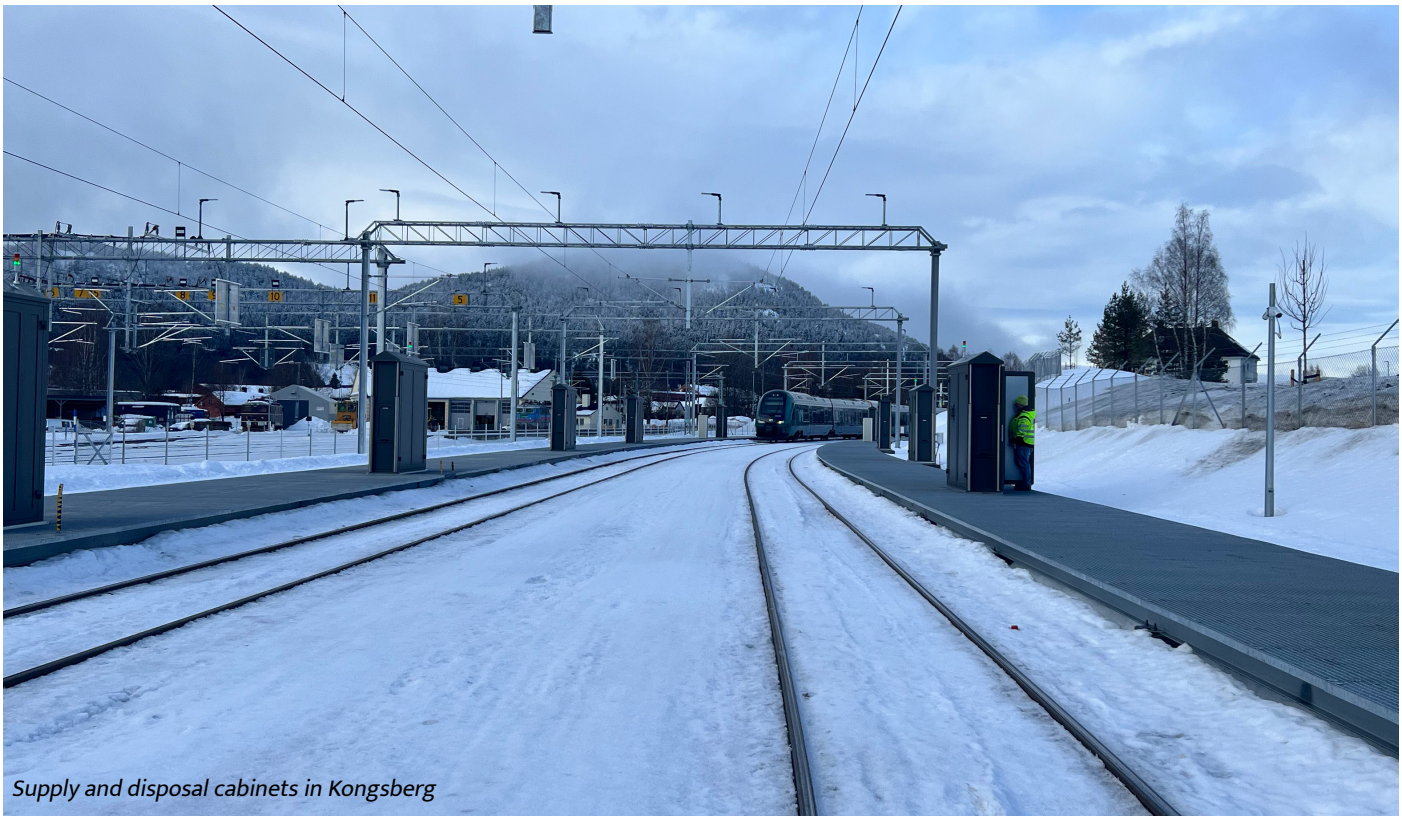
Roediger Vacuum GmbH

In Any Weather: Supply & Disposal Systems for Norwegian Trains



Supply and disposal cabinets in Kongsberg

Norway, the land of the midnight sun and deep fjords, experiences extreme temperature and weather fluctuations. This requires particularly robust technology for servicing the trains.

Along the coasts, the climate is comparatively mild and oceanic, influenced by the Gulf Stream. Inland, on the other hand, winters can be extremely cold, with temperatures often dropping as low as -30°C. These contrasting weather conditions characterise life in Norway and pose a challenge for infrastructure such as the railway.

Bane NOR and the Challenges of Rail Transport

The state-owned railway company Bane NOR is responsible for the operation and maintenance of Norway's rail network, which stretches over 4000km and connects major cities and regions. Coping with extreme weather conditions, especially in winter, places special demands on staff and infrastructure. Trains must be equipped with robust heating systems to keep passengers comfortable even in freezing temperatures, while the tracks must be regularly cleared of snow and ice to ensure safe operation. In addition, Bane NOR staff must be trained and equipped to respond quickly

and effectively to emergencies and ensure the reliability of rail transport even in the most adverse conditions. Despite these challenges, the railway plays a crucial role in Norway's transport system and provides a reliable and environmentally friendly transport solution for the country's population and economy.

Innovation in Supply and Disposal Technology for Bane NOR

In the world of rail transport, efficiency and reliability are of paramount importance. When it comes to supply and disposal of passenger trains in the service depots, Bane NOR relies on Roediger Vacuum from Germany and their local partner Dahlrail.

A key component of the supply and disposal systems are the cabinets on the platforms, where the hoses for drinking water, rinsing water and wastewater are stored. These cabinets are specially designed to function reliably even at extreme temperatures of down to -30°C.

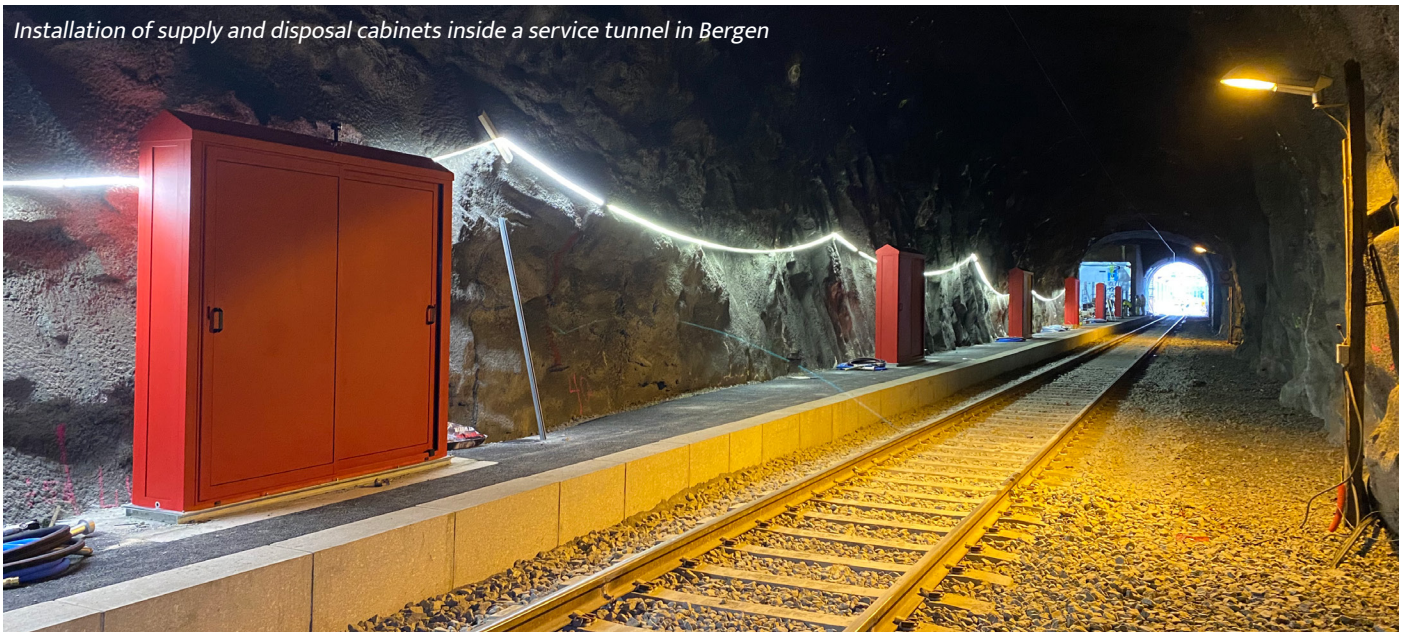
The service depots in Kongsberg and Sundland in the surroundings of Oslo and another depot in Bergen on the west coast of Norway are equipped with Roediger cabinets. These cabinets have hose reel systems with hoses of up to 15 metres in length. Hose-reel systems with electric motors make the operator's work easier and ensure smooth and ergonomic operation.

Another decisive factor is the high efficiency of the Roediger vacuum system. One high-performance vacuum station per location is sufficient to supply the entire system with a constant vacuum. Compared to conventional double-pump systems, Roediger systems are maintenance-friendly and require significantly less energy, which reduces operating costs and contributes to sustainability.

Remote Monitoring for Reliable Supply and Disposal Systems

In the modern world of infrastructure, reliable remote monitoring is crucial to ensure smooth operation and efficient maintenance of equipment.

Image: Train service depot in Kongsberg


Installation of supply and disposal cabinets inside a service tunnel in Bergen

Roediger Vacuum recognises this and offers advanced solutions for remote monitoring of supply and disposal systems in Norway.

The supply and disposal systems in Norway include state-of-the-art remote monitoring technology. By integrating sensors and IoT technology, these systems can be continuously monitored to record the condition of the systems in real time and detect potential problems at an early stage.

Remote monitoring allows operators to remotely monitor key parameters such as vacuum level, temperature, flow rates and physical faults in the supply and disposal systems and networks and to take immediate action if necessary. This not only helps to reduce downtime and avoid operational disruptions, but also enables maintenance work to be planned more efficiently and resources to be utilised in the best possible way.

Another advantage is the possible initiation of predictive maintenance work. By analysing data and identifying trends, potential problems can be predicted even before they occur. This allows operators to act proactively and minimise unscheduled downtime.

With Roediger's advanced remote monitoring technology, supply and disposal facilities in Norway can ensure smooth operation while maximising efficiency and reliability. These innovations help to strengthen the country's infrastructure and ensure sustainable operations.

Harsh Site Conditions

The installation of enclosures and vacuum pump stations on construction sites in the cold north is a particularly demanding challenge. In regions with the extreme weather conditions, the enclosures and systems must not only be robustly built, but also specially insulated and protected from the elements. Site conditions often require the use of skilled labour that is familiar with the challenges of the Arctic climate and able to work efficiently in adverse conditions.

In addition to the construction of the systems, the vacuum pumping systems must be designed and built to function reliably even at extremely low temperatures. This requires not only the use of high-quality materials, but also careful planning and installation to ensure that the systems can operate efficiently even under the harshest conditions.

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