
RAILWAY VACUUM WASTEWATER SYSTEMS AND CLEANING MACHINES

MORE THAN 50 YEARS OF EXPERIENCE IN COLLABORATION WITH RAILWAYS



Laborex[®]
RAILWAY WASTEWATER SYSTEMS

MORE THAN 50 YEARS OF EXPERIENCE AND COOPERATION WITH RAILWAYS

Over the years, our know-how and service has made us a global player in the Railway Industry. For over 50 years we have been internationally active in the Railway Industry and we specialize in vacuum railway wastewater systems, blasting cabinets and cleaning systems. Being innovative is of paramount importance to us. We take care of the developing process entirely in house. The package that we offer you is complete, our experience very high. Together we decide which is the most suitable solution for your application. Each cleaning problem is different and requires its own approach. Our creative, professional and comprehensive approach ensures that you get the most efficient solution.

WE OFFER A COMPLETE SOLUTION

In particular, we are specialized in the development and production of vacuum wastewater units for the daily maintenance of trains. We ensure that faeces and wastewater from the lavatory areas can be removed via several suction posts all connected to one central unit.

Besides emptying the wastewater tanks each suction post can be equipped with:

- ▶ a vacuum cleaning hose to clean the trains carpets,
- ▶ a rinsing hose to rinse the tanks,
- ▶ a hose to add "blue product" typical for high speed rail,
- ▶ water to provide the train with fresh water,
- ▶ heated soapy water to perform cleaning activities,
- ▶ compressed air for maintenance and repair,
- ▶ 2 electrical outlets, one for 1 x 220 v, one for 3 x 400 v.

THIS UNIQUE PATENTED SOLUTION MAKES IT POSSIBLE TO EVACUATE FAECES AND CARPET DUST THROUGHOUT THE SAME EVACUATING PIPELINES.

Our modern, state of the art factory covers some 8000 m² including a steel plate department, the latest hi-tech machinery and a professional after-sales and service department. Our 80 qualified employees guarantee the perfect finish to your railway wastewater system, blasting cabinet or cleaning system. This is where the strength of our entire organization lies.

ALL OF OUR MACHINES AND SYSTEMS ARE DEVELOPED AND PRODUCED IN-HOUSE

All of our machines and systems have been produced in-house since 1960, which results in high quality products. They are compatible with the CE machinery directive and are characterized by their reliability.

ENGINEERING

First, our Mechanical Engineering team create a 3D model in SolidWorks of what the railway wastewater system, blasting cabinet or cleaning system will look like. This model is extensively discussed with you and further tailored to your needs. In the mean-time, our Electrical Engineering team examines the full electric and automation process. The electric schemes and cabinet lay-out are drawn and designed. The PLC programs are written and tested.

PRODUCTION

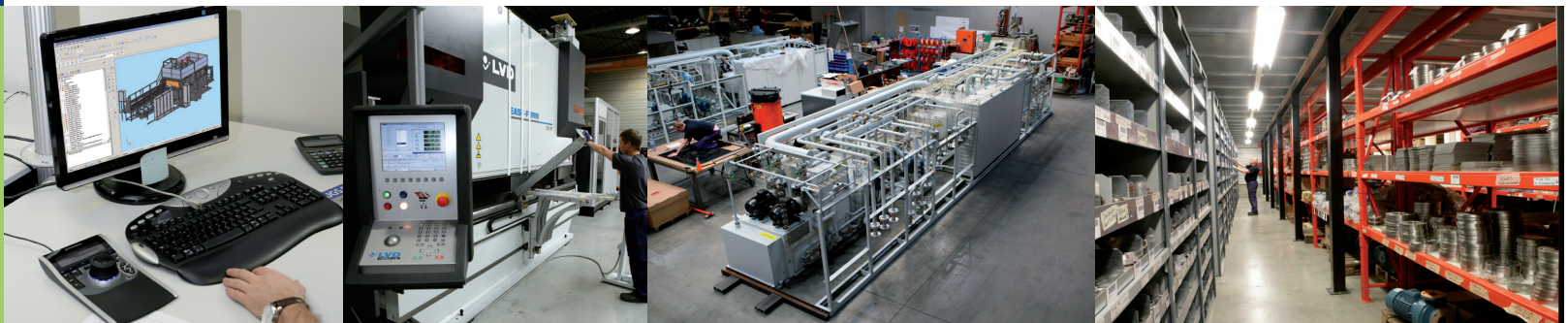
After we have determined the complete engineering process, all materials are ordered and production can start. We have a team of highly skilled welders and technicians. All these people have the most modern equipment to achieve a high quality product. For example, all machines are built on a special 100% horizontal welding floor. After production, the machine is tested on the welding floor and connected to a test control box. When the machine runs satisfactorily, it is dismantled and then lacquered. The final assembly takes place in our Assembly Department.

AFTER-SALES SERVICE

Even after the purchase of your railway wastewater system, we continue to follow up. We have a permanent team available for delivery and installation of all equipment. In addition another team provides professional maintenance. Our qualified technicians undergo training on a regular basis.

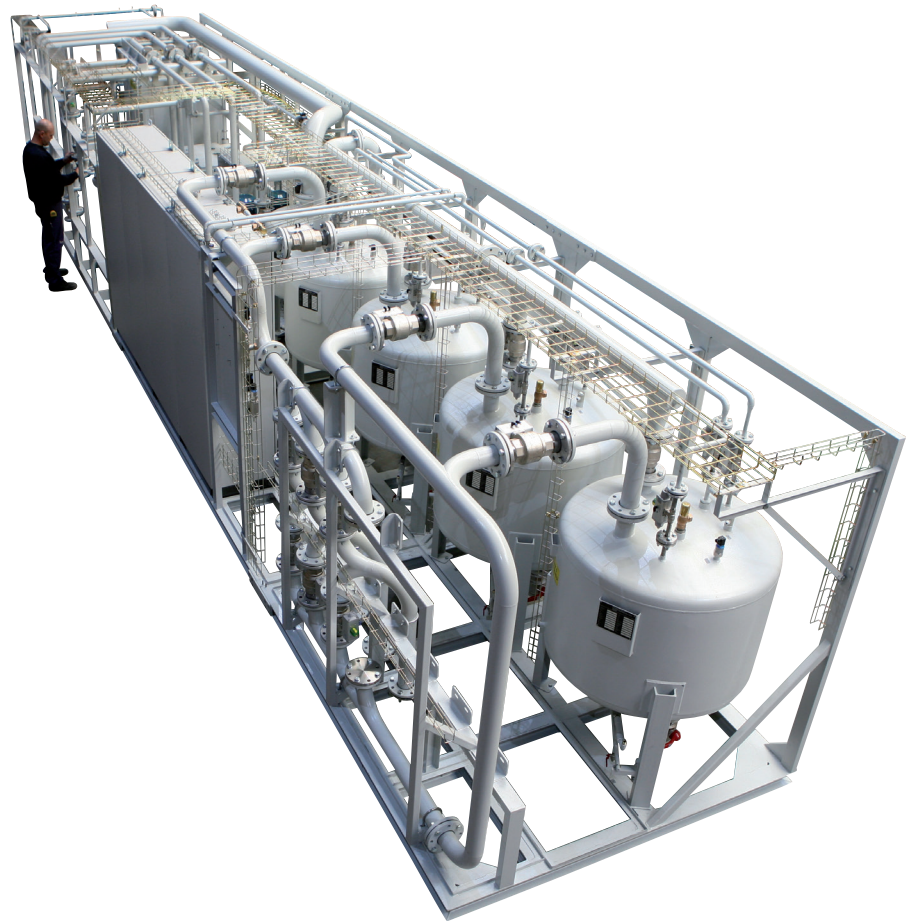
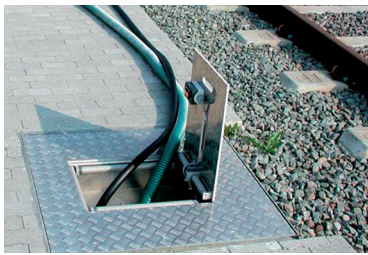
PARTS WAREHOUSE

Having a strong after-sales service is one thing, having the right parts in stock another. We have a large warehouse where over 4,000 parts are in stock. Should something fail on your railway wastewater system, blasting cabinet or cleaning system, you can count on your machine being back in service within 24 hours. In certain circumstances or emergencies, bridging machines can be placed to keep your production running.



SUPPLY AND DISPOSAL NETWORK FOR TRAIN DEPOTS

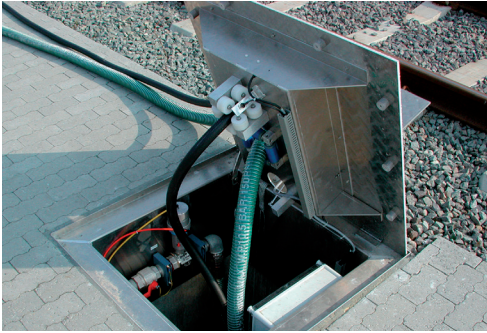
LABOREXRAIL SUPPLY AND DISPOSAL NETWORKS FOR TRAIN DEPOTS ARE CONFIGURED TO MEET EVERY REQUIREMENT. WE CONSIDER ALL FACTORS SUCH AS TOILET TECHNOLOGY, HYGIENE NEEDS, TYPICAL WEATHER CONDITIONS, AUTOMATION REQUIREMENTS, ETC.



Advantages of LaborexRail supply and railway disposal networks

- ▶ Concrete gutters which can be placed flawlessly between the existing rail tracks and on which a double suction unit is placed every 24 meters (double suction unit = one for the wagon on the left and one for the wagon on the right) => as a result we offer a very good price-quality ratio.
- ▶ The railway installations are seamlessly manufactured, no obstacle can get stuck in the piping => blockages are not possible anymore => long and flexible curves are used to prevent blockages and pipe losses.
- ▶ Everything is centralized in one unit => these units suck wastewater out of the train toilets and rinse the tanks, vacuum and compressed air connection, soapy water, socket 200 V + 400 V, connection with city water => compact unit (= all through one single pipe), the price will be more advantageous per location (= very good price-quality ratio).
- ▶ Installation completely manufactured in stainless steel => rust ↓, lifespan ↑.
- ▶ Installation completely insulated and frost-free => can function to a temperature of -20 °C.
- ▶ In Belgium the units are installed alongside the railway track. The suction heads are hung in brackets or reels are used.
- ▶ Integration of Profibus (Ethernet) => every responsible person can monitor the installation on his computer.
- ▶ Integration of GPRS in installation => at any time service/maintenance can be conducted online.
- ▶ Possibility to sign a maintenance contract => lifespan + quality of the installation ↑.

SUPPLY AND DISPOSAL NETWORK FOR TRAIN AND HS DEPOTS



DISPOSAL NETWORK TYPE 1000 SINGLE UNDERGROUND

The type 1000 is an underground system. The advantage is that the path between the rails stays free. A vehicle can drive over the suction posts. The posts accept a point load up to 2000 kg. When not in use, the suction hose and water hose are neatly hidden underground.

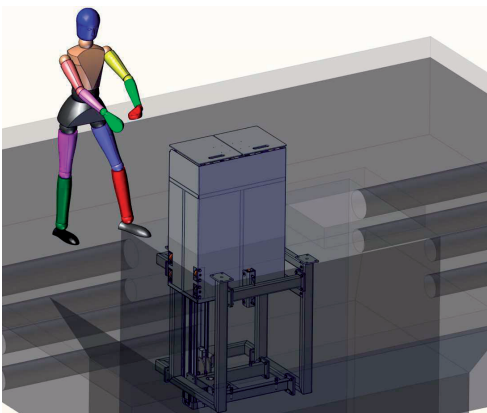
Accessing the techniques is done by the suction post itself. This explains the large lid. Underneath the lid a concrete pit of 1200 x 1200 mm and depth of 1800 mm is installed. The different concrete pits are mutually connected by means of conduits.



DISPOSAL NETWORK TYPE 2000 SINGLE UNDERGROUND - HEAVY

The type 2000 is an underground system. The advantage is that the path between the rails stays free. A vehicle can drive over the suction posts. The posts accept a point load up to 4000 kg. When not in use, the suction hose and water hose are neatly hidden underground.

Accessing the techniques is done by using a stairs which gives access to a tunnel. All techniques and piping are installed in the tunnel. The tunnel interconnects the different suction posts. The suction posts have a dimension of 400 x 300 mm.



DISPOSAL NETWORK TYPE 3000 SINGLE UNDERGROUND - MOST ERGONOMIC SOLUTION

The type 3000 is an underground system. The advantage is that the path between the rails stays free. A vehicle can drive over the suction posts. The posts accept a point load up to 4000 kg. This is our most ergonomic solution. The suction post can be lifted 600 mm while being used, providing easy access to the different hoses. It is possible to electrically un roll and up roll the hoses. When not in use, the suction hose and water hose are neatly hidden underground.

To access the techniques, we offer 2 solution:

- ▶ tunnel system: by using a stairs which gives access to the tunnel,
- ▶ one hatch per suction post: the hatch gives access to the space underneath each suction post.

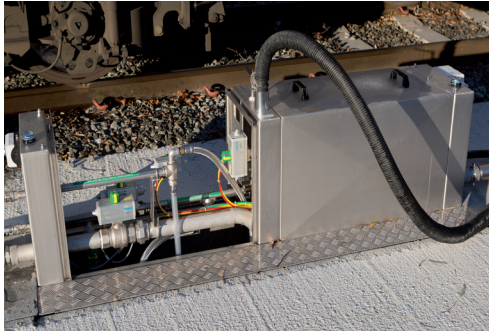


DISPOSAL NETWORK TYPE 4000 SINGLE ABOVE GROUND

The type 4000 is a single above ground system. When not in use, the hoses are lying aside the rail.

The suction posts are installed above ground. All techniques are installed in the suction post itself. The piping connecting the different suction posts are installed in gutters covered by concrete lids. Each 12 meters, a suction post is installed on top of the gutter.

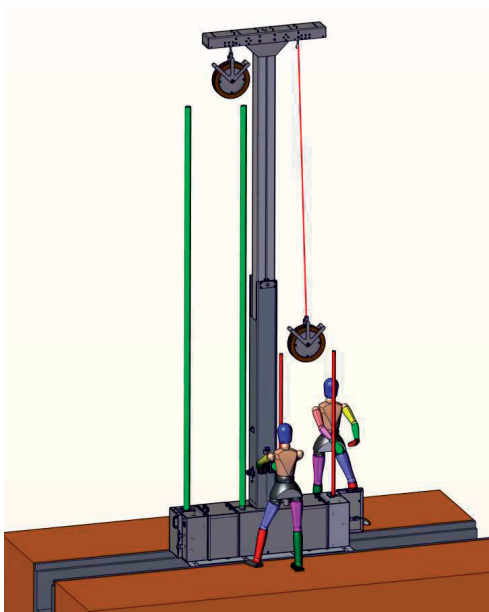
SUPPLY AND DISPOSAL NETWORK FOR TRAIN AND HS DEPOTS



DISPOSAL NETWORK TYPE 5000 DOUBLE ABOVE GROUND

The type 5000 is a double above ground system. When not in use the hoses are lying aside the rail. The suction posts are installed above ground. All techniques are installed in the suction post itself. The piping connecting the different suction posts are installed in gutters covered by concrete lids. Each 24 meters, a suction post is installed on top of the gutter.

The double above ground system can be connected to two separate carriages. The tanks of the two carriages can be emptied simultaneously.



DISPOSAL NETWORK TYPE 6000 T-POLE WITH INTEGRATED RETRACTING SYSTEM

The type 6000 is our above ground pole system. The hoses are installed in a vertical pole and are retracted automatically. This ergonomic system offers a large operating radius.

The hoses have an operating radius of 18 meters. Techniques are installed within each suction pole. The piping connecting the different suction poles can be installed either in gutters covered by concrete lids or simply directly in the foundation. Each suction pole can be equipped with an individual lighting module. This makes installing separate lighting poles superfluous.



EACH TYPE OF DISPOSAL NETWORK, TYPE 1000-6000 CAN BE EQUIPPED WITH THE FOLLOWING OPTIONS:

- ▶ a vacuum cleaning hose to clean the trains carpets,
- ▶ a rinsing hose to rinse the tanks,
- ▶ a hose to add "blue product" typical for high speed rail,
- ▶ water to provide the train with fresh water,
- ▶ heated soapy water to perform cleaning activities,
- ▶ compressed air for maintenance and repair,
- ▶ 2 electrical outlets, one for 1 x 220 v, one for 3 x 400 v.

MOBILE DISPOSAL VEHICLE

WE HAVE A WIDE RANGE OF SELF-PROPELLED ELECTRIC VEHICLES AND TRAILERS.

ALL LABOREXRAIL MOBILE DISPOSAL SYSTEMS HAVE A MAXIMUM FLEXIBILITY AND ARE EASY TO HANDLE AND ARE LIGHT IN WEIGHT.



MOBILE DISPOSAL VEHICLE - 600 L & 1200 L

Reliability, comfort, design and quality are the keywords of our mobile disposal systems.

All LaborexRail mobile disposal systems have a maximum flexibility and high operational readiness and are light in weight.

Wide range

We have a wide range of self-propelled electric vehicles and trailers.

Choices include both small (width ± 1100 mm) and large (width ± 1500 mm) electric vehicles, depending on your space/passage.

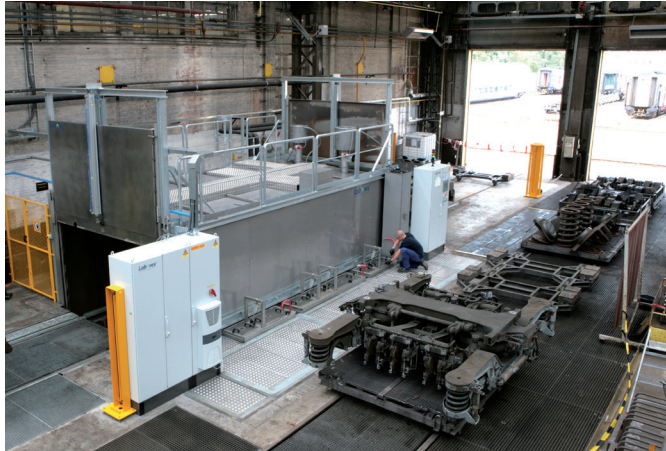
Advantages of LaborexRail mobile disposal systems

- ▶ All LaborexRail mobile disposal systems are entirely manufactured in stainless steel. This means no rust and a high lifetime of all LaborexRail mobile disposal systems.
- ▶ In the design of our mobile disposal systems we have taken into account the smell and sound of these systems by installing an activated carbon filter to avoid smell and by installing a silencer to avoid noise.
- ▶ Typically mobile disposal systems are equipped with a palettes vacuum pump as standard. The big disadvantage of this pump is that, because of greasing, it is very sensitive when it comes to maintenance. Therefore LaborexRail has developed a system which permits a semi-automatic capability which is much more user friendly.
- ▶ All our mobile disposal systems can be equipped with a rinsing device.
- ▶ The trailers can be built on any type of electric vehicle.
- ▶ Personal adjustments are always possible in favour of reducing weight, taking difficult accesses, etc. We are herein very flexible.
- ▶ The maintenance of the mobile disposal systems can be entirely done by our team of technicians. We guarantee an excellent after sales service.
- ▶ On the electric screens we keep a history of all error messages.

RAILWAY CLEANING SYSTEMS

THE PURITY REQUIREMENTS PLAY AN IMPORTANT ROLE IN THE RAILWAY INDUSTRY. THEREFORE WE CONSTANTLY STRIVE TO MAKE OUR RAILWAY CLEANING SYSTEMS MEET THE HIGHEST PURITY REQUIREMENTS AND NORMS.

SPECIALIZED IN INDUSTRIAL AND RAILWAY CLEANING SYSTEMS TECHNIQUES, WE OFFER ECO-FRIENDLY AND EFFICIENT SOLUTIONS. BEING INNOVATIVE IS THEREFORE OF PARAMOUNT IMPORTANCE TO US.



Railway cleaning

The purity requirements play an important role in the railway industry. The railway industry develops and renews itself constantly, as a result of which the parts ask a deeper and more careful cleaning. A dirt particle can lead to mechanical failure or other serious defects. Therefore we constantly strive to make our railway cleaning systems meet the highest purity requirements and norms.

Specialized in industrial and cleaning techniques we offer eco-friendly and efficient total solutions for the railway industry. Each railway cleaning problem is different and requires an individual approach. The package we offer you is complete, our experience very high. Together we choose the most suitable railway cleaning system for your application. Being innovative is therefore of paramount importance to us.

All our railway cleaning systems are developed and manufactured in-house, which results in high quality products. Our railway cleaning systems comply with the CE machinery directive and are characterized by their reliability.

After-sales service

Even after the purchase of your railway cleaning system, we continue to follow up. We have a permanent team available for supply and installation of railway cleaning systems. Besides that, there is another team that provides professional maintenance. Our qualified technicians undergo training on a regular basis.

Our service trucks are fully equipped. We guarantee an excellent after sales service. This means most situations are handled at once. Certain railway cleaning systems work via remote monitoring (remote control).

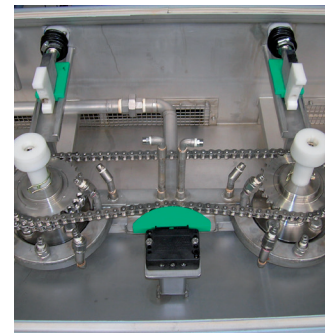
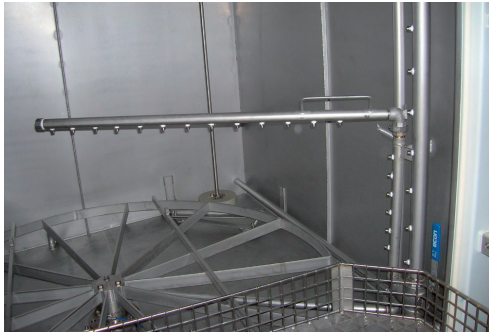
Cleaning systems maintenance contract

For peace of mind, most customers sign a rail maintenance contract with us. Through conducting regular rail maintenance we avoid unexpected machine failures and thus high costs and also the life of your railway cleaning system increases considerably.

More than 4,000 cleaning system parts in stock

We have a large warehouse where over 4,000 parts are in stock. Should your machine fail, we can guarantee that your railway cleaning system will be operating again within 24 hours. In certain circumstances and emergencies, bridging machines can be placed to keep your production running.

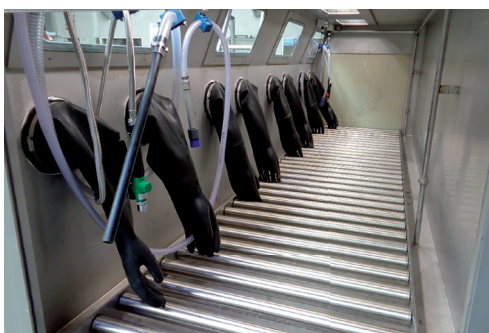
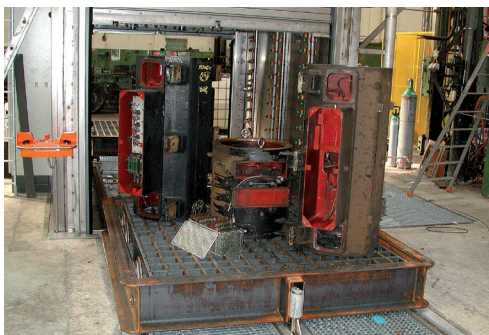
RAILWAY CLEANING SYSTEMS



Our railway cleaning systems meet the highest purity requirements and norms, since they play an important role in the railway industry. Specialized in industrial cleaning techniques, we offer ecofriendly and efficient total solutions for the railway industry. Each railway cleaning problem is different and requires an individual approach and railway cleaning system. The package we offer you is complete, our experience very high. Together with you we choose the most suitable railway cleaning system for your application. Being innovative is therefore of paramount importance to us.

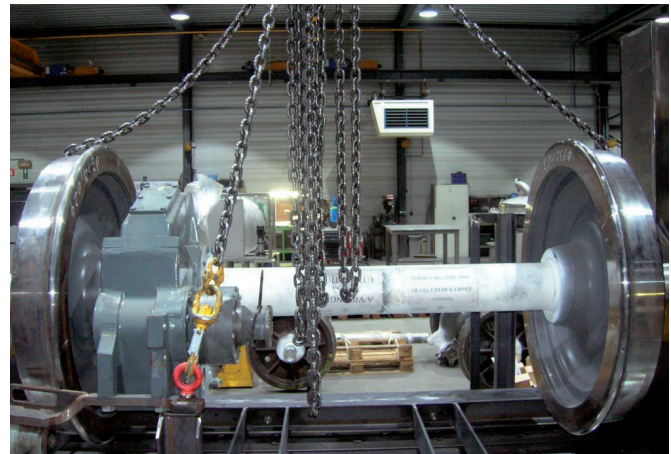
We have Railway Cleaning systems for

- ▶ Cleaning of train bogies
- ▶ Cleaning small parts traction motors for trains
- ▶ Cleaning of traction motors
- ▶ Cleaning of train bearings
- ▶ Cleaning of train brake systems
- ▶ Cleaning of train buffers
- ▶ Cleaning of train engine parts
- ▶ Cleaning of train shock absorbers
- ▶ Cleaning of train toilets
- ▶ Dedusting of train compressors
- ▶ Cleaning of small train parts
- ▶ Cleaning of small corrosive train parts before painting
- ▶ Cleaning of train batteries
- ▶ Cleaning of train brake parts
- ▶ Cleaning of train brake-compressor parts
- ▶ Cleaning of train dampers
- ▶ Cleaning of train filters
- ▶ Cleaning of train springs, dampers, ...
- ▶ Cleaning of train wheel components
- ▶ Manual cleaning of train toilets



RAILWAY BLASTING CABINETS

OUR BLASTING CABINETS ARE PRODUCED ACCORDING TO THE LATEST ENVIRONMENTAL, SAFETY, HYGIENE AND ERGONOMICS STANDARDS. WE ENSURE THAT THE POWER OF OUR BLASTING CABINETS IS AS LOW AS POSSIBLE WHEN BLASTING YOUR RAILWAY PARTS. BY THE CONTINUOUS RECYCLING OF THE BLASTING MEDIA, WE ALSO HAVE A LOW CONSUMPTION. THE RAILWAY PARTS ARE BLASTED IN CLOSED BLASTING CABINETS. THUS, THE WORKSPACE IS ALWAYS CLEAN AND DUST FREE.



Blasting of railway parts

The Laborex blasting cabinets are steadily produced in accordance with the latest environmental, safety, hygiene and ergonomics standards. In addition, we ensure that the energy of our blasting cabinets is as low as possible when blasting your railway parts. By the continuous recycling of the blasting media, we also have a low blasting media consumption. Finally, the railway parts are blasted in a closed cabin. Thus, the workspace is always clean and dust free.

The Laborex blasting cabinets are reliable, durable and easy to operate. The compactness of our blasting cabinets guarantees that moving to another place in a workspace is very easy.

The automation and the high purity requirements in the railway results in an increasing demand for special blasting cabinets which are fully tailored to your needs and cleanliness requirements.

All our machines are developed and manufactured in house, which results in high quality products. They comply with the CE machinery directive and are characterized by their reliability.

After-sales service

Even after the purchase of your blasting cabinets, we continue to follow up. We have a permanent team available for supply and installation of blasting cabinets. Besides that, there is another team that provides professional maintenance. Our qualified technicians undergo training on a regular base.

Our service trucks are fully equipped. We guarantee an excellent after-sales service. This means that most blasting cabinets related situations can be handled at once.

Maintenance contract

At all times you are able to enter a maintenance contract with us. By having regular maintenances unexpected machine failures, and thus high costs, are avoided and also the life span of your machine increases considerably.

More than 4.000 parts in stock

We have a large warehouse where over 4,000 parts are in stock. Should your machine fail, we ensure you can count on your machine being back in service within 24 hours.

OUR KNOW-HOW AND SERVICE HAS MADE US A GLOBAL PLAYER IN THE RAILWAY INDUSTRY THE PAST FOUR DECADES



NMBS

35

disposal network
systems for train
maintenance

We have recently closed a major contract with the Belgian Railways.
Spread over 7 to 8 years, we will install supply and disposal network systems on 35 different locations for the maintenance of trains.
This project is very important to us.



NS

15

years of
collaboration with
Dutch Railways

Since the '90s, the Dutch Railways appeal to LaborexRail for the supplying of cleaning systems.
Since then, we have already delivered 6 cleaning systems and 3 blasting cabinets to the Dutch Railways.



RATP

More than **20**
machines for RATP

To full satisfaction, LaborexRail has already delivered more than 20 machines at RATP or Régie Autonome des Transports Parisiens.
Rotating cleaning systems, component cleaning tables, manual high pressure cleaning cabinets, blasting cabinets can all be found at RATP



SNCF

Over **20** workshops
equipped.

Cleaning tables

Washing machines:

- Power units,
- Accesories,
- Transmission components,
- Brake cylinders,
- Bogies and bogie parts.

Glass bead blasting:

- Before NDI,
- Stripping.

Some Ctec detergents (branch of Laborex) are approved and symbolized SNCF.



Laborex®
RAILWAY WASTEWATER SYSTEMS

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