

## DURABLE SYSTEMS, HIGHEST QUALITY, SAFE PRODUCTS

### Trains & Trams

Have a look at our range of wiper systems specifically designed for rail application. For locomotives, light rail vehicles and EMU/DMU markets we have designed, tested and manufactured innovative, but safe systems.

All kind of motor drives are available, with specific arms, project designed wiper blades with spray jets, wash tank solutions and linkages to provide you with an optimal wiping area. With our experience in the rail field we have introduced a variety of product specialties to optimize the usage of our systems in the rail area.

For specific references and show cases we ask you to contact us directly.

### Locomotives

The engineers at Exalto Wiper Technologies help you create the best and safest view for all sorts of locomotives. In good collaboration with both engineering departments we ensure the best solution and provide you with all the necessities to enjoy a long lasting high quality wiper system. Our test facility enables us to exactly tell you when for example a wiper blade needs to be replaced or at what interval maintenance assures a system for the

length of days.

### Retrofit

EXALTO Wiper Technologies offer a range of retrofit kits to replace your pneumatic wiper system. From the field we identified technical and costs problems arisen from intensive use of pneumatic wiper systems. In case the remaining life time of the train is sufficient a retrofit kit from EXALTO will present you a variety of advantages.

Our Conversion kits are specifically designed for use as direct replacements for pneumatic wipers. We can either supply standard wiper conversion kits, or design with you a specific system to suit your needs.

### Rail project management

The development of the correct wiper system for a new to be developed train cabin is not an easy task. Local regulation, operator wishes, cabin restrictions, environmental challenges, all to be incorporated in a durable, safe and high performance system. Exalto Wiper Technologies supports you with the development of these projects with a structured and qualified management system that guarantees you the right product for the job.

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**YOUR SUPPLIER FOR HIGH QUALITY WIPER SYSTEMS**

## INTRODUCTION

Exalto is a family owned business with operations in the Netherlands since 1965. For many years EXALTO Wiper Technologies has been a successful manufacturer of wiper systems for a variety of rail applications. In cooperation with customers and institutes Exalto has developed many windscreen wiper systems that are in operation around the world, providing services in a variety of climates and under severe circumstances.

*"The system are well proven for their design and reliability. Made from the best available materials and developed after continuing field feed back and test centre endurance test, the company is proud to share this top product for a demanding industry. The LCC specifications are robust and economically efficient. For large and small series we offer the solution", according to mr. Fons Miltenburg - Commercial Director.*

*"With over 35 years experience and track record in windscreen wiper systems for Marine and Rail, EXALTO Wiper Technologies have established a triple A position in the industry. Our company is ISO 9001/2015 certified and all materials in accordance to all existing rail specifications and 99% reusable. Check out the opportunities for any LRV, METRO, TRAM, LOCOMOTIVE, EMU OR DMU application."*





**Exalto design and development engineering support**

Exalto Wiper Technologies designs its own equipment. Experience, drive to innovate, bench and field tests, field feedback from over 30 years are the ingredients for our current and future designs. Designs that have been transformed into products that are used all over the world in a variety of applications. Many thousands for all kind of environments. This engineering capacity is continuously striving to improve our products and is available to support you in the best solution for your application. With modern 3D software we are able to give you complete new view. With software simulated examples and/or proto type tests projects.



**Different design opportunies**

With integrated mechanical linkage assemblies, electronic controllers, special blades and or project designed wiper arms we are able to create a perfect wiping solution for the train cab. Also for washing of the windscreen we design and manufacture a standard or any wash tank in Aluminum or stainless steel (304) to fit for your application. With durable washing infrastructure components and all compliant to all rail standards.



**OUR REFERENCES**

Exalto equipped wiper systems in many different applications. Many projects have been supplied for intercity and regional traffic in countries like Germany, UK, Switzerland, Italy, Finland, Sweden, Norway, Poland, Serbia, Croatia, Slovenia, the Netherlands, France, Russia, Belarus, Azerbaijan, etc. For city transport with trams in cities like

Basel, Helsinki, Ostrava, Geneva, Glasgow, etc. Also different locomotives for major rail equipment builders around the world. And not to forget for special vehicles produced in low volumes or retrofit systems to replace older and or pneumatic wiper systems. A few of these designs are shown below.

**LET US SUPPORT YOU WITH OUR KNOWLEDGE**

**Services:**

- Proto type development;
- On site training;
- Aftersales support;
- First Article Inspections;
- Extensive spare parts services;
- Spare parts consignment arrangements.

**Exalto permanent test room for endurance and development testing**

Exalto Wiper Technologies does type test all standard product prior to introduction to the market. With increasing demands for window growing sizes and therefore extended requirement of length of arm and blades, we feel the need to endurance test. In our Netherlands facility we have a permanent testroom to undertake a variety of tests on complete systems and on individual parts. Also external bench tests are used to generate substantial product proof prior to market use.

**New developments**

Exalto Wiper Technologies constantly develops existing products. In order to create the best a optimal life-cycle cost performance thus ensure long life time components and extreme high system availability. We understand that rail operators need to rely on wipers, every day.

**OUR SOLUTIONS**

Due to the intensive contacts between our engineering team, the engineering teams of train manufacturers and rail operators, we have gained lots of experiences to design fit for purpose wiper systems. Our design criteria are: excellent performance in good and harsh circumstances,

perfect fit, minimum maintenance requirement, no special tools, reliability, durability, long service intervals, low operational costs. For this we a full range of standard products and design project specific components if required. A few of these components are shown below.

