



Rail sector solutions that lead the way

Safe | Reliable | Innovative | Trusted | Bespoke

Engineered peace of mind

The expertise of Pneumatrol

For over 50 years, Pneumatrol has specialised in the design and manufacture of high integrity pneumatic components and control systems for safety critical applications in the railway industry.

Working in close partnership in the UK and around the world with rolling stock manufacturers as well as fleet maintenance and sub system suppliers, Pneumatrol has used its extensive technical expertise and knowledge of the rail sector to deliver a range of innovative, safe and reliable solutions.

Designed to be easy and reliable to operate with minimum maintenance, the range of products include the unique Rail Brush and the GPS-related control system, as well as control valves, cylinders and control panels for many pneumatic applications on trains.

The products include:

- Pantograph cylinders with control panels for overhead current collector systems
- Control panels for sanding control systems
- Over height control valves for levelling systems
- Cylinders for coupling/de-coupling
- Shoe gear cylinders for third rail current collection
- Cylinders and control panels for hopper door operation
- Various valves which include specially designed Ball valves for demanding rail sector applications.

In addition, Pneumatrol is the UK distributor for Brot windscreen wiper systems, which have been designed and manufactured by Brot Technologies for more than 50 years. All Brot systems satisfy the stringent requirements of rolling stock manufacturers and railway operators for quality and durability.

Throughout its history, Pneumatrol has earned a reputation as a trusted problem solver with a host of solutions tailored to meet the specific requirements of individual customers. As well as the rail industry, Pneumatrol delivers engineered pneumatic solutions for process, energy and industrial market sectors.

Safety and reliability are at the core of every Pneumatrol product, most of which are certified to the strictest industry standards. At the same time, being part of the ROSS Controls group has enabled Pneumatrol to draw on ROSS expertise to rapidly bring new products to the market.

Values that have driven Pneumatrol from day one include the goal of manufacturing products that combine the highest quality with maximum efficiency and performance. In the 21st century, these values have been supplemented by a commitment to create solutions that are also low-power and supportive of environmental targets.

➔ Backed by the power of ROSS

Pneumatrol was acquired by ROSS Controls in 2019 and merged with ROSS UK to form ROSS Pneumatrol Ltd. The ISO-certified ROSS Controls group has designed and manufactured world-beating pneumatic valves and control systems since 1921. Acknowledged as a global leader in fluid power safety solutions and poppet valve technology, ROSS Controls provides standard products and customised ROSS/FLEX® solutions for machinery and automation applications. Backed by the power of ROSS, Pneumatrol makes special products for a wide range of rail industry customers, with the aim of delivering exactly what they require to operate at maximum levels of efficiency and safety.

Some of the customers who use our products

Pneumatrol's reach is truly worldwide, with a growing number of customers in Europe



Windscreen wiper systems

Pneumatrol has worked on a number of projects with some of the biggest names within the rail sector, providing a range of pneumatic windscreen wiper systems which are designed and manufactured by Brot Technologies these include actuators, wiper arms, wiper blades, command modules and pumps.

Pneumatic technology means that all Brot equipment has a very long life cycle, making them ideal for meeting the most demanding quality standards of train manufacturers and rail network operators.

Users of Brot wiper systems benefit from:

- Actuators with an operational life of 30 years
- Service intervals of 15 years
- Minimum life for wiper blade arms of five years
- A two-year guarantee on wiper blades
- Guaranteed low life-cycle costs

Brot Technologies also supply spare parts to maintenance departments of rail operators worldwide.

The wiper arms and blades can be adapted to work with systems on all existing rolling stock.



Rail Brush

Pneumatrol's unique Rail Brush is a rail conditioning system for cleaning rail lines of compressed leaves (mulch), ice, sleet, snow, sand, rust, and other debris.

➔ Benefits of the Rail Brush include:

- Maximum adhesion of wheel to rail
- Superior braking efficiency which helps to avoid wheel-slide
- Superior acceleration efficiency which helps to avoid wheel-slip
- Reduced stopping distances and delays
- More effective operation of track circuits
- Minimised signals passed at danger (SPADS) and station overruns
- Helps maintain the integrity of 3rd rail current collection

The Rail Brush consists of a single acting spring return cylinder with a brush head that contains spring steel tines attached to the piston rod. Bogie mounted with height adjustment to accommodate wear of the tines; the Rail Brush uses urethane buffering to prevent noise transfer.

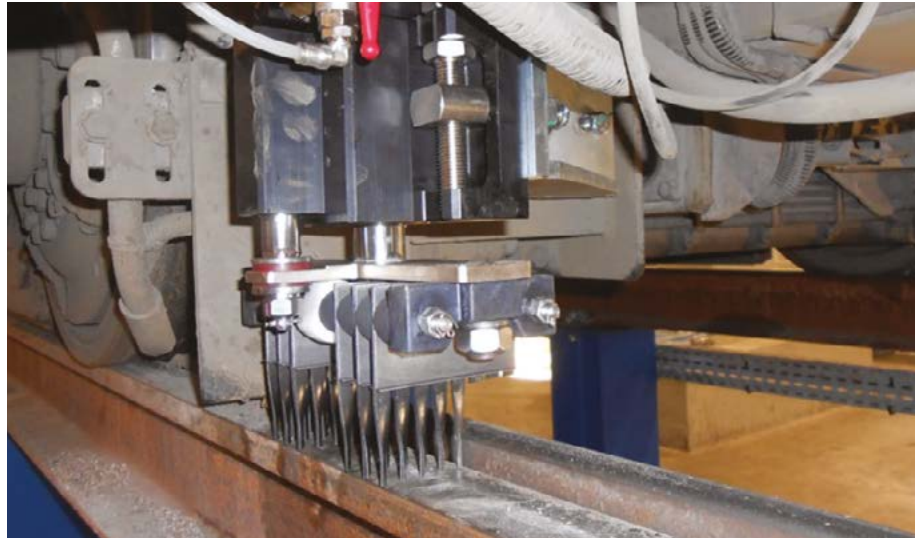
The Rail Brush is capable of being fitted to trams, metro, tube and mainline trains for both running rails and third/fourth rail applications. The rail brush comes as single or twin rod dependent on the application.

These applications include heavy-duty applications on rail maintenance vehicles and in third electric rail applications, particularly on underground trains that also run above ground to remove sleet/snow and ice.



Operated by a signal from the driver's cab, the Rail Brush works by compressed air entering the cylinder to extend the brush down on to the rail. The force and scraping action of the tines cleans the rail and, when required, the Rail Brush retracts and springs fully clear of the rail in response to the signal from the cab being removed. The brush head is designed for quick trackside replacement with minimum downtime.

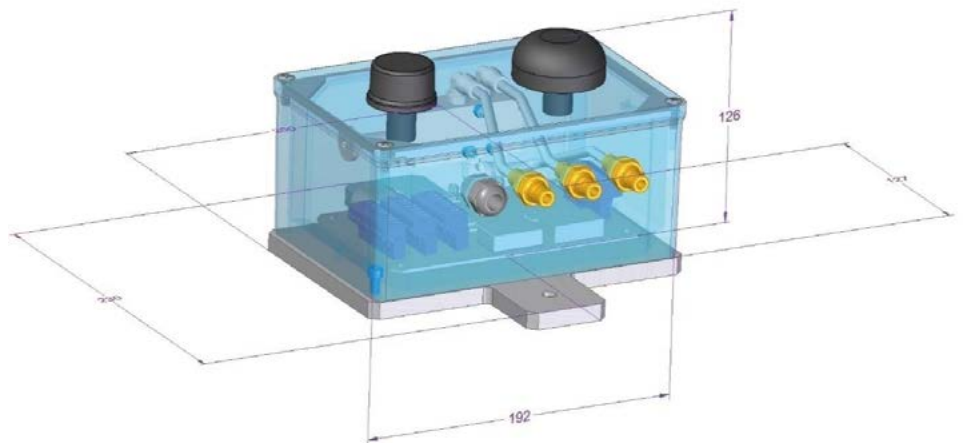
Control equipment for the Rail brush is also supplied by Pneumatrol, this includes control valve, regulator and accessories.



GPS control box for Rail Brush

Working with one of our Rail partners Brot in France, who have developed a GPS system that works alongside our Rail Brush under the product name 'Clean Rail'. The system can be mapped for a train/tram network so the brush deploys automatically in areas for more precise brushing control along the network with no driver intervention.

- Increased Rail Brush life & reduced maintenance frequency
- Concentrates the benefits of the Rail Brush on known adhesion hot spots
- Avoids high impact from crossing points

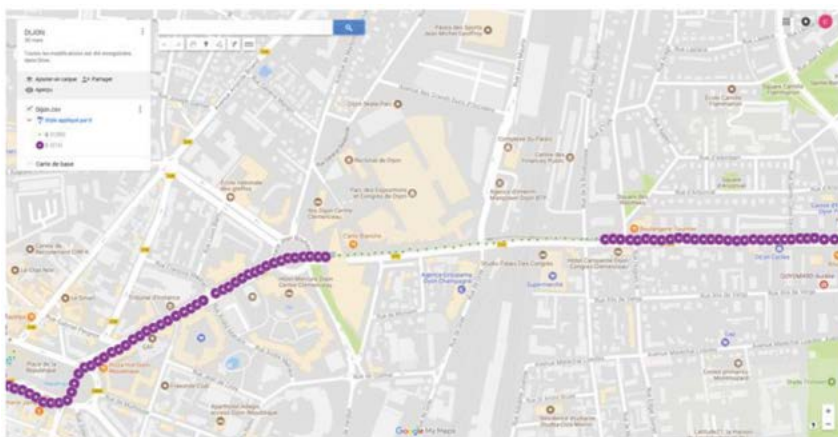


Characteristics

Power supply 24 Vdc or 36/140 Vdc
Maps learning by Wi-Fi
No additional software needed

Advantage

Allows precise control of brushing area

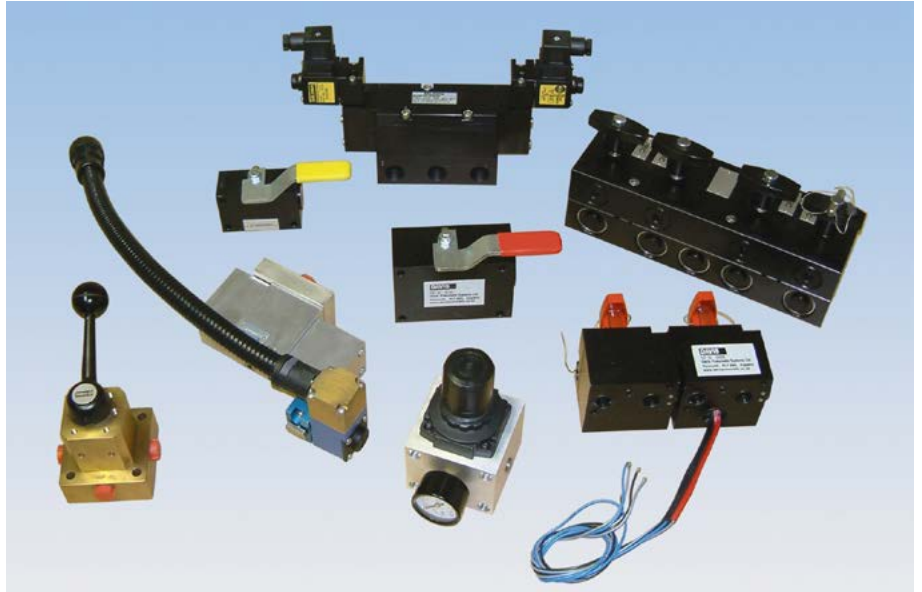


Control valves, cylinders and panels

Pneumatrol designs and manufactures a range of spool valves, ball valves and pressure regulators for railway applications.

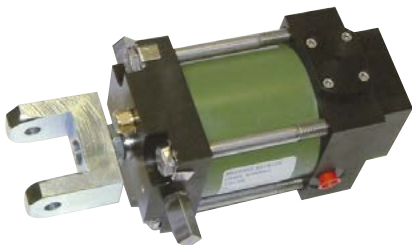
Valves

These include over height valves, coupler control valves, check valves, shuttle valves, and manual/switching ball valves.



Cylinders

Pneumatrol also offers a range of panels and pneumatic cylinders for use by the rail sector. These include cylinders to operate shoe gear for third rail current collection as well as coupler/uncoupler cylinders and pantograph operating cylinders with their associated control panel.



Panels

Our capabilities include design and manufacture of bespoke panels for Rail and Process sector, working with our customers to provide a system with all the necessary approvals. Panel benefits includes elimination of tubing and fittings, reducing leak paths and making the pneumatic circuit more tolerant to vibration.



Heavy duty cylinders

Other products in this range include heavy duty cylinders fitted with a locking mechanism for hopper door operation on railway wagons as well as points cylinders. We also supply the whole associated pneumatic control circuit for hopper door cylinders.



Process sector solutions from Pneumatrol

Pneumatrol and Ross believe in giving customers exactly what they need to operate at maximum levels of efficiency and safety. This means that as well as developing some of the most advanced pneumatic valves in the world as standard, Pneumatrol creates genuinely unique solutions that are designed to meet the highly demanding and specific requirements of end-users.

Namur mounted valves

The T-C-R Series solenoid valves are designed for direct mounting onto 1/4 turn pneumatically operated valve actuators that meet 'NAMUR' interface standard fixing dimensions.



Remote mounted valves

Ease of maintenance and troubleshooting as well as minimal tubing are among the many benefits of using Pneumatrol's E Series remote mounted solenoid valves.



Hazardous and non-hazardous area solenoid coils

Pneumatrol manufactures a range of explosion-proof, intrinsically safe solenoid coils for use in hazardous areas, as well as a range of safe area solenoid coils.



HELIS high-flow valves

Pneumatrol's remote mounted, high-flow HELIS poppet solenoid valves are designed for use with large process valves or valves that require fast opening or closing.



Modular Redundancy Control Systems - Pneumatrol's Modular Redundancy Control Systems (MRCS) remove the need to rely on just one solenoid valve to open or close the process valve.

The 1oo2 (one-out-of-two) MRCS module can be fitted to any of ROSS Pneumatrol's CNOMO interfaced valves, including Namur and remote mounted valves.



Pneumatrol's 2oo2 (two-out-of-two) MRCS is designed for applications where extremely high levels of availability and reliability are particularly important.



Pneumatrol's 2oo3 (two-out-of-three) MRCS is designed to offer superior levels of safety and reliability, with TUV Rhineland certification to SIL level 3.



Linear valve actuators

Pneumatrol supplies its actuators not just to process valve manufacturers and distributors but also to major oil, chemical and civil engineering companies around the world.



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