



On-Track Equipment

Mechanisation
for safer and
faster track work

Manufactured by



PANDROL

Partners in excellence



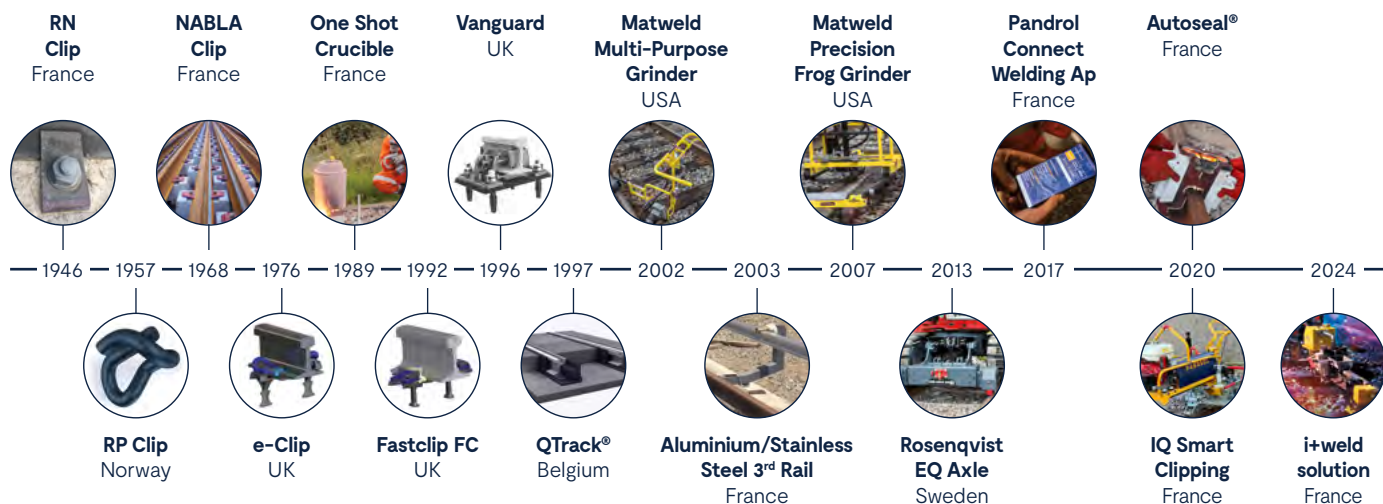
Partners in Excellence

Pandrol defines the industry standard across rail fastening systems and aluminothermic welding. We've created rail infrastructure in more than 100 countries with our products and services extending to designing, developing and manufacturing equipment to make constructing and maintaining railways more efficient. That means we've experienced just about every situation, problem, question and solution before.

Our ranges for installation

Pandrol presents its full range of next-generation Clip Drivers and equipment for rail and sleeper handling. Designed to increase speed and efficiency during installation and maintenance on rail systems, these solutions help our customers keep people off track and improve worker safety. Discover our latest innovations, including the new battery-operated CD100 B for maintenance and the

recently launched IQ range, which features a 'smart system' to provide information on installed and operating clips. Our commitment to enhancing the speed and efficiency of installation and maintenance on rail systems also extends to our Rail and Sleeper Handling and Track Transportation Equipment, providing a holistic solution for your railway infrastructure needs.



A complete end-to-end-service

We are technicians, engineers, developers and designers who solve customers' complex problems using our unique history of innovation and an endless pursuit of new thinking. We support our customers at every stage of the process, from design and installation right through to operation, monitoring and maintenance.



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Selection of clip drivers

	Model	Usage	Maximum sleepers / min (indicative value)	Installing Clips					
				FC	FE	FCX	e-Clip	PR401	Offset clips
	CD100	Maintenance	Up to 10	Yes	Yes	Yes	No	No	No
	CD100 B	Maintenance	Up to 10	Yes	Yes	Yes	No	No	No
	CD200 IQ	Maintenance / New track	Up to 20 FC,FE,FCX Up to 10 e-Clip	Yes	Yes	Yes	Yes	Yes	Yes FC No e-Clip
	CD300 IQ / CD300 EC	Maintenance / New track	Up to 40 FC, FE, FCX Up to 20 e-Clip	Yes	Yes	Yes	Yes	Yes	e-Clip
	CD400	Intensive	Up to 40 FC, FE, FCX Up to 20 e-Clip	Yes	Yes	Yes	Yes	Yes	e-Clip
	CD400SP IQ	Intensive	Up to 25 FC,FE, FCX Up to 20 e-Clip	Yes	Yes	Yes	Yes	Yes	e-Clip

IQ: intelligent control system

Extraction / Declipping												
FC	FE	FCX	e-Clip	PR401	Offset clips	Track gauge	Power	Rail(s) clip(s) at the time	Movement	Lift low-lying sleepers	Weight	Dimensions
Yes	Yes	Yes	No	No	No	Not applicable	Combustion engine	One rail	Walk-behind machine	10 mm	16 kg (petrol unit) 40 kg (clipping) / 45 kg max (declipping)	Length 1120 mm Width 625 mm Height 910 mm Wheels Ø85
Yes	Yes	Yes	No	No	No	Not applicable	Battery	One rail	Walk-behind machine	10 mm	19 kg (battery unit) 43 kg (clipping) / 48 kg max (declipping)	Length 890 mm Width 650 mm Height 700 mm Wheels Ø85
Yes	Yes	Yes	Yes	No	Yes FC No e-Clip	Adjustable from 1000 to 1600 mm (others on request)	Combustion engine	One rail	Walk-behind machine	50 mm	254 kg (Fasclip) / 272 kg (e-Clip)	Length 2100 mm Width 1980 mm Height 1050 mm Wheels Ø55
Yes	Yes	Yes	Yes	Yes	e-Clip	1435 mm	Combustion engine	Both rails	Road-rail vehicle (RRV) attachment	90 mm	975 kg	Width 2250 mm Length 1730 mm Height 1030 mm Wheels Ø 125 mm
Yes	Yes	Yes	Yes	Yes	e-Clip	1000, 1067, 1435, 1520, 1600 mm (others on request)	Hydraulic	Both rails	Road-rail vehicle (RRV) attachment	90 mm	1400 kg	Length 2500 mm Width 2100 mm Height 1030 mm Wheels Ø 250 mm
Yes	Yes	Yes	Yes	Yes	e-Clip	1000, 1067, 1435, 1520, 1600 mm (others on request)	Combustion engine	Both rails	Walk-behind machine	90 mm	3075 kg	Length 3220 mm Height 1830 mm from top of rail Width 2290 mm Wheels Ø 250 mm

CD100 B

Fastening Installation Equipment

Adding Value

CD100 B is an emission-free portable clipping machine designed for quick and easy clipping and declipping of the Pandrol Fastclip range.



The CD100 B clipping machine is designed for clipping and declipping Pandrol Fastclips. Compact and lightweight, it is suitable for use by a single operator and can be easily carried on site.

The CD100 B is composed of three parts: a power pack and two clipping tools. As part of its ergonomic design, a weight-bearing wheel runs along the rail, dramatically reducing the physical strain on the operator. Although optimised for smaller clipping and declipping applications, the CD100 B is versatile and can be coupled quickly and easily to other equipment.

Powered by battery, this emission-free clipping machine is suitable for use in tunnels, stations, and densely populated areas where working safely with low noise and clean air is a priority.

→ TECHNICAL FEATURES

Advanced battery technology

The CD100 B is equipped with a reliable lithium-ion battery, designed for high-power applications. The battery supports hundreds of charges while maintaining full power, with a low self-discharge rate.

Modular design

Designed with a quick connect interface, the patented CD100 B comes in three modules: the power pack, the clipping tool and the declipping tool.

Made for Pandrol Fastclip

Compatible with Fastclip FC up to 1500 series of clips (15mm in diameter), Fastclip FE and FCX.

Compact

The powerful tool's small size means the CD100 B can be stored in the boot of a car and carried onto site by one person for quick intervention and reduced cost.

Ergonomic features

The CD100 B is equipped with an adjustable handle and a weight-bearing wheel that runs along the rail to reduce physical strain on the operator.

→ ADVANTAGES

- The CD100 B's compact, portable design means that it can be transported easily and used by a single operator, saving time and labour costs.
- The machine's ergonomic features, including adjustable handle, weight-bearing wheel and light weight, make it safer and more convenient for users.
- An environmentally-friendly, battery-powered tool with no exhaust smoke and reduced noise, the CD100 B makes a positive contribution to clean working environments.
- Being emission-free, it is suitable for use in tunnels, stations, and densely populated areas.
- The CD100 B replaces the need for manual hand tools for small jobs, eliminating the risk of tools slipping and physical stress injuries.
- The tool has been designed to be extremely versatile. It can be coupled to other equipment and is strong enough to lift a sleeper up to 10mm.



→ COMPONENTS

1. High-power lithium-ion battery power pack
2. Ergonomic weight bearing wheel
3. Interchangeable clipping tool
4. Adjustable handle
5. Clipping tool for FC / FE / FCX
6. Unclipping tool for FE / FCX
7. Unclipping tool for FC / FCX (complete removal)

→ SPECIFICATIONS

Technical data

Description	CD100 B Power Unit	Clipping tool FC/FE/FCX	Unclipping tool FE/FCX	Unclipping tool FC/FCX (complete remove)
L x W x H	480 x 260 x 400 mm	200 x 570 x 340 mm	350 x 560 x 400 mm	270 x 560 x 400 mm
Weight	19 kg (without battery)	24 kg	29 kg	24 kg
Clipping / Declipping	-	2 clips per cycle	2 clips per cycle	2 clips per cycle
Max working force	-	33.8 kN	23.9 kN	23.9 kN
Capacity	300 clipping operations	About 10 sleepers / min	About 10 sleepers / min	About 10 sleepers / min
Battery capacity	72 V 6 Ah - 82 V (included with charger)	-	-	-
Noise level	Operation: 79.2 dB (A)	-	-	-
Vibration level (handlebars)	0.53 - 1.28 m/s ²	-	-	-

Accessories

392025	Additional 6 Ah - 82 V battery
392026	Additional charger
5012728	2 Clipping pads FCX
5012727	2 Clipping pads FE

Standard compliance

- Machinery directive 2006/42/EC

Approved by

- SNCF product acceptance No: **AGT 23036**

CD100

Fastening Installation Equipment

Adding Value

The ideal lightweight baseplate assembly, in particular when rail fastenings need to be 'pushed' into concrete that is formed but still wet.



The CD100 clipping machine is designed for clipping and declipping Pandrol Fastclips. Compact and lightweight, it is suitable for use by a single operator and can be easily carried onto site.

The CD100 is composed of three parts: a power pack and two clipping tools. As part of its ergonomic design, a weight-bearing wheel runs along the rail, dramatically reducing the physical strain on the operator. Although optimised for smaller clipping and declipping applications, the CD100 is versatile and can be coupled quickly and easily to other equipment.

This version is also available with battery power (CD100 B), making it suitable for use in tunnels, stations, and densely populated areas where working safely with low noise and clean air is a priority.

→ TECHNICAL FEATURES

Modular design

Designed with a quick connect interface, the patented CD100 comes in three modules: the power pack, the clipping tool and the declipping tool.

Made for Pandrol Fastclip

Compatible with Fastclip FC upto 1500 series of clips (15mm in diameter), Fastclip FE and FCX.

Compact

The powerful tool's small size means the CD100 can be stored in the boot of a car and carried onto site by one person for quick intervention and reduced cost.

Ergonomic features

The CD100 is equipped with an adjustable handle and a weight-bearing wheel that runs along the rail to reduce physical strain on the operator.

→ ADVANTAGES

- The CD100's compact, portable design means that it can be transported easily and used by a single operator, saving time and labour costs.
- The machine's ergonomic features, including adjustable handle, weight-bearing wheel and light weight, make it safer and more convenient for users.
- The CD100 replaces the need for manual hand tools for small jobs, eliminating the risk of tools slipping and physical stress injuries.
- The tool has been designed to be extremely versatile as it can be coupled to other equipment.



→ COMPONENTS

1. Power unit
2. Ergonomic weight-bearing wheel
3. Interchangeable clipping tool
4. Adjustable handle
5. Unclipping tool
6. Clipping tool

→ SPECIFICATIONS

Technical data

Description	CD100 Thermic Power Unit	Clipping tool FC/FE/FCX	Unclipping tool FE/FCX	Unclipping tool FC/FCX (complete remove)
L x W x H	480 x 260 x 400 mm	200 x 570 x 340 mm	350 x 560 x 400 mm	270 x 560 x 400 mm
Weight	16 kg	24 kg	29 kg	24 kg
Clipping / Declipping	-	2 clips per cycle	2 clips per cycle	2 clips per cycle
Max working force	-	33.8 kN	23.9 kN	23.9 kN
Capacity	-	Up to 10 sleepers/min	Up to 10 sleepers/min	Up to 10 sleepers/min
Noise level	Operation : 98 dB (A)	-	-	-
Vibration level (handlebars)	0.53 - 1.28 m/s ²	-	-	-

Accessories

5012728	2 Clipping pads FCX
5012727	2 Clipping pads FE

Standard compliance

- Machinery directive 2006/42/EC

Approved by

- Network Rail product acceptance No: **PA05/03211**
- SNCF product acceptance No: **AGT 23217**

Clip Driver CD200 IQ

Fastening Installation Equipment

Adding Value

Rosenqvist Rail's intelligent clipping machine, using an intuitive control system to simplify operation.



The Clip Driver CD200 IQ uses intelligent control systems to simplify operation. The new smart system can provide information on clips installed and number of operating hours, while also preventing incorrect use of the machine.

The modular, lightweight design of the CD200 IQ enables it to be lifted on and off track easily. Thanks to mechanical and hydraulic quick connectors, it is simple to change between the two clipping tools for Fastclip and e-Clip.

The CD200 IQ also has a patented built-in sleeper lift function, enabling the operator to lift low-lying sleepers of 50mm. It is powered using a new power pack and a Honda engine.

→ TECHNICAL FEATURES

Intelligent control system

The CD200 IQ has a new intuitive control system with a digital display that provides information (e.g. number of operating hours, clips installed).

Modular, lightweight design

The clip driver's modular, lightweight design means that it can be lifted on and off the track easily.

Mechanical and hydraulic connections

Mechanical and hydraulic quick connections allow efficient switching between tools for Fastclip and e-Clip.

Clipping speed

The machine clips up to 20 sleepers per minute with Fastclip and up to 10 sleepers per minute with e-Clip.

Built-in sleeper lift function

Enables the CD200 IQ to lift low-lying sleepers of 50mm.

Engine

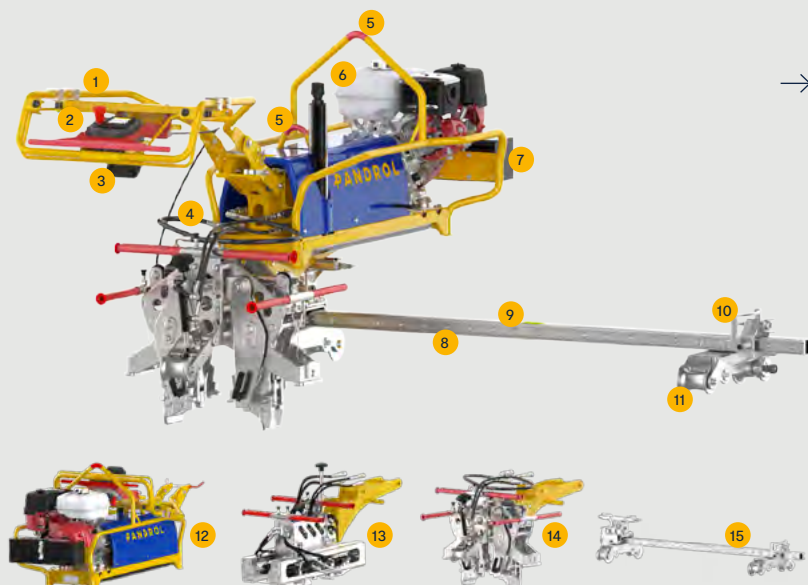
Equipped with a powerful Honda petrol engine, the clip driver ensures consistent performance.

Safety

A fail-safe mechanical brake is available as an option.

→ ADVANTAGES

- The intelligent control system simplifies operations and prevents misuse of the machine.
- The control system logs data on the quantity of clips installed and number of operating hours, allowing the user to monitor their on-track efficiency.
- The CD200 IQ's modular design reduces the weight and lifting requirements for users, making it easier to set up on track.
- Mechanical and hydraulic quick connectors streamline the changeover between Fastclip and e-Clip tools, reducing downtime.



→ COMPONENTS

- | | |
|---|---|
| 1. Height adjustable handlebar | 9. Trolley unit |
| 2. Control panel | 10. Latch for slide carriage, handle |
| 3. Working light | 11. Wheel bracket |
| 4. Mechanical and hydraulic quick release couplings | 12. Powerpack |
| 5. Lifting points | 13. e-Clip clipping and unclipping module |
| 6. Main unit | 14. Fastclip FC/FE clipping and unclipping module |
| 7. Accessory box | 15. Trolley |
| 8. Slide bar | |

→ SPECIFICATIONS

Technical data

Description	CD200 IQ Fastclip	CD200 IQ e-Clip	CD200 IQ Fastclip	CD200 IQ e-Clip
Engine	Honda	Honda	Briggs & Stratton	Briggs & Stratton
L x W x H	2202 x 2111 x 1142 mm	2202 x 2111 x 1103 mm	2202 x 2111 x 1142mm	2202 x 2111 x 1103 mm
Weight Power Pack / Trolley	103 kg / 54 kg	103 kg / 54 kg	103 kg / 54 kg	103 kg / 54 kg
Weight tool	97 kg	115 kg	97 kg	115 kg
Clipping / Declipping	2 clips per cycle	2 clips per cycle	2 clips per cycle	2 clips per cycle
Capacity	Up to 20 sleepers/min	Up to 10 sleepers/min	Up to 20 sleepers/min	Up to 10 sleepers/min
Sleeper lift	10-20 mm	10-20 mm	10-20 mm	10-20 mm
Noise level	Operation: 92 dB (A)	-	-	-
Vibration level	3.15 - 4.3 m/s ²	-	-	-

Standard compliance

- Machinery directive 2006/42/EC

Approved by

- SNCF product acceptance No: **GT 22 283**
- Network Rail product acceptance No: **PA05/07221**

Clip Driver CD300 IQ/CD300 EC

Fastening Installation Equipment



Clip Driver CD300 IQ is a high-production clipping machine designed to install Pandrol Fastclip FC and FE fastening systems. Clip Driver CD300 IQ is a version specially designed for e-Clip fastening system.

The machine's design is based on the proven technology of Pandrol's Clip Driver CD400, with enhancements adding to its performance. Tools are folded up when not in use, eliminating the risk of collision with shoulders, fishplates and clips in the track. A newly designed intelligent control system monitors the machine's operation and actively controls the clipping operation.

Clip Drivers CD300 IQ and CD300 EC has a quick adjustment for various rail heights and guiding rollers ensure it is centred on the track. Its low weight makes it suitable for use on smaller road-rail machines.

→ TECHNICAL FEATURES

Intuitive control system

Clip Drivers are equipped with a new intelligent control system featuring a display that is easy to use and available in multiple languages. The system stores running data for follow-up and displays error codes when required.

Automated clipping speed

The control system measures the machine's speed on the track and automatically adjusts the start of the clipping operation. This ensures a perfect result while protecting both the machine and the track from damage.

Raised tools

Tools are raised when not in use, eliminating the risk of collision with shoulders, fishplates and ballast. It is no longer necessary to remove the clipping pads on the tools when it is not used, which saves time on the track.

Guiding rollers

Guiding rollers ensure the Clip Driver is centred on the track.

Rapid height adjustment

The machine's height can be adjusted quickly and easily for various rail types by moving the position of a pin.

Lightweight design

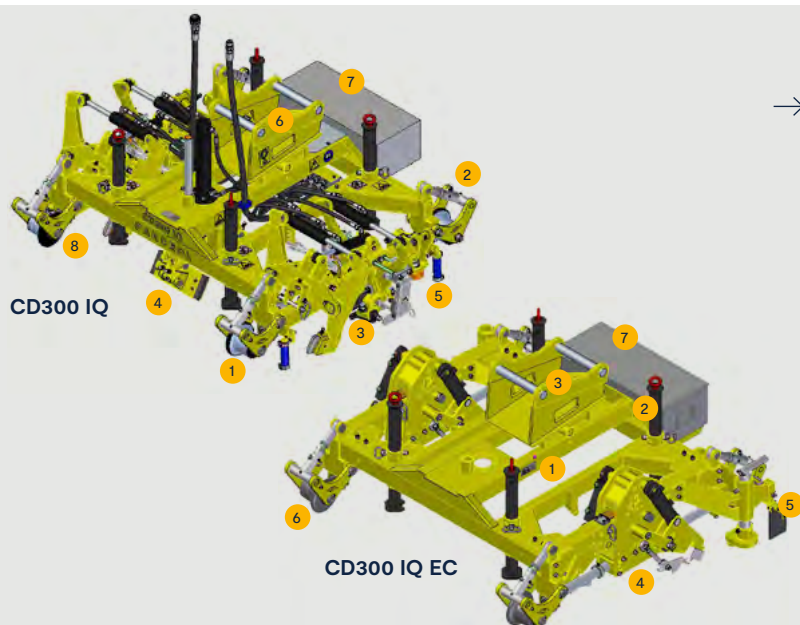
Clip Drivers weigh less than 1000 kg and can be used with smaller road-rail machines from 6 tonnes upwards.

Proven technology

The machine's design is based on the same proven technology as Clip Driver CD400 (clipping tools and sleeper lift). As a result, it is robust, reliable and has reduced need for spare parts.

→ ADVANTAGES

- Clip Drivers intelligent control system makes the machine easy and intuitive to use. The error codes enable faster fault-finding.
- Automated control of clipping operation start prevents faulty installation and damage to the machine and track.
- The machine's light weight makes it easier to lift on and off the track and means that it can be used with a wide range of road-rail machines.
- Risk of damage to the machine and track is further reduced because tools are raised when not in use. This also saves time.
- Quick height adjustment saves a great deal of time, particularly when using the machine on different rails.
- Clip Drivers are reliable and need few spare parts, making it a cost-effective option.



→ COMPONENTS

CD300 IQ

1. Automatic system
2. Quick adjustment of height
3. Foldable Fastclip tools
4. Sleeper lift
5. Guiding rollers
6. Machine interface bracket
7. Toolbox
8. Supporting legs

CD300 IQ EC

1. Identification plate
2. Supporting legs
3. Machine interface bracket
4. Clipping/De-clipping tool
5. Clipcatcher
6. Railwheel
7. Toolbox

→ SPECIFICATIONS

Technical data

Description	CD300 IQ	CD300 EC
Clips	FC and FE	e-Clip and PR clip
L x W x H	1790 x 2222 x 1034 mm	1790 x 2222 x 1034 mm
Weight	990 kg	840 kg
Clipping / Declicking	4 clips per cycle / 4 clips per cycle	4 clips per cycle / 2 clips per cycle
Capacity	Up to 40 sleepers/min	Up to 20 sleepers/min
Wheels	Ø 125 mm	Ø 125 mm
Track gauge	1435 mm	1435 mm

Accessories

5014482	S45 bracket
5014954	S50 bracket
5015480	S60 bracket
5015528	Bluetooth option (only fastclip)
On demand	Brackets for lift with forks
On demand	Remote joystick

Standard compliance

- Machinery directive 2006/42/EC
- Electromagnetic compatibility (EMC) 2014/30/EU
- Safety of machinery – General principles for design. Risk assessment and risk reduction EN ISO 12100:2010
- Safety of machinery – Electrical equipment SS-EN 60204-1
- Safety of machinery – Control systems EN ISO 13849-1:2015

Approved by

- SNCF product acceptance No: **AGT 24002**

Clip Driver CD400

Fastening Installation Equipment



Rosenqvist Rail's Clip Driver CD400 is a robust, high-performance clipping machine that clips and unclips Pandrol Fastclips and e-Clips. When fitted with proximity sensors, the CD400 fastens clips automatically, enabling additional productivity and security.

Attached to a railroad vehicle (RRV) and equipped with a sleeper lift, the Clip Driver CD400 can be used to raise low ties for new construction (Fastclip only), harnessing hydraulic power from the RRV. The easily adjustable attachment has a durable frame structure that is fitted with high-quality bearings to ensure longevity and maintain performance levels.

→ TECHNICAL FEATURES

Versatility

The Clip Driver CD400 fits tools for Pandrol e-Clip, Fastclip, Fastclip FE and Deenik and is adjustable for most common track gauges.

Automatic functions

With the option of being fitted with proximity sensors, the CD400 has an intuitive control panel that can be used to fasten clips automatically.

Guiding rollers

Guiding rollers centre the machine in work mode for impressive precision and productivity. Up to 40 Fastclip ties can be clipped per minute.

Attachment to RRV

The CD400 can be connected to a 13-ton carrier machine using an easily adjustable attachment. It then draws on hydraulic power from the RRV to lift sleepers.

Safety features

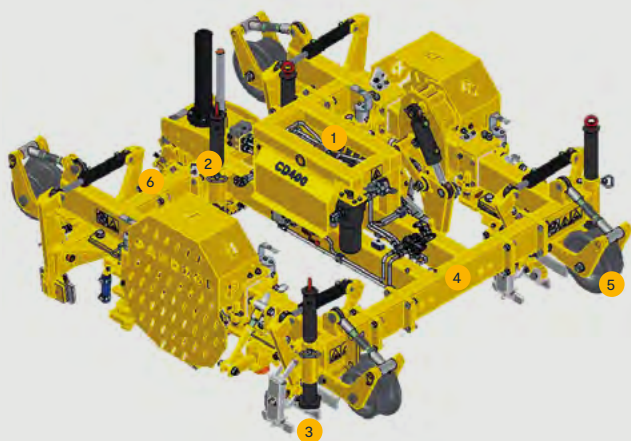
The Clip Driver has covers and mechanical stop arms to prevent pinch injuries and clips detaching.

Robust construction

For extra-long life, the Clip Driver CD400 has a durable frame structure and is equipped with high-quality, tapered roller bearings.

→ ADVANTAGES

- Automation options and a user-friendly remote control panel ensure the machine is simple and intuitive to use.
- The CD400 is extremely efficient. With its guiding roller ensuring precision and productivity, the machine can clip up to 40 ties per minute.
- Covers and mechanical stop arms eliminate the risk of pinch injuries and prevent clips flying off, increasing the safety of operators.
- The machine is constructed from high-quality parts, reducing the requirement for maintenance, increasing longevity and saving time and money over the course of its life.
- Suitable for use with Pandrol e-Clip, Fastclip, Fastclip FE and Deenik, and adjustable for most common track gauges, the Clip Driver CD400 offers a versatile clipping option.
- The Clip Driver CD400 is a reliable, robust machine that gets the work done.



→ COMPONENTS

1. Machine bracket
2. Support legs
3. Clipping Tools
4. Frame
5. Wheel
6. Sleeper lift

→ SPECIFICATIONS

Technical data

Description	CD400 Fastclip	CD400 e-Clip	CD400 Fastclip/e-Clip
Clips	FE / FC / FCX	e-Clip / PR401	FE / FC / FCX / e-Clip / PR401
L x W x H	2500 x 2145 x 1030 mm	2500 x 2100 x 1030 mm	2500 x 2145 x 1030 mm
Weight	1740 kg	1150 kg	1400 kg
Clipping / Declipping	4 clips per cycle / 4 clips per cycle	4 clips per cycle / 2 clips per cycle	4 clips per cycle / Up to 4 clips per cycle (e-Clip declipping 2 clips per cycle)
Capacity	Up to 40 sleepers/min	Up to 20 sleepers/min	Up to 40 sleepers/min
Sleeper lift	90 mm	90 mm	90 mm
Clips offset	-	Yes	Yes e-Clip
Wheels	Ø 250 mm	Ø 250 mm	Ø 250 mm
Track gauge	1067, 1435, 1600 mm	1067, 1435, 1600 mm	1067, 1435, 1600 mm

Accessories

5014482	S45 bracket
5014954	S50 bracket
5015480	S60 bracket
On demand	Brackets for lift with forks
On demand	Remote joystick

Standard compliance

- Machinery directive 2006/42/EC

Approved by

- Network Rail product acceptance No: **PA05/1477**
- SNCF product acceptance No: **DEO20135**

Clip Driver CD400SP IQ

Fastening Installation Equipment



The CD400SP IQ is our second generation walk-behind clipping machine, following the original reliable CD400SP.

This robust and efficient self-propelled machine now has an EU Stage 5 diesel engine from Hatz and a new intelligent control system. The CD400SP IQ logs the machine's operational history so the owner can see the running hours and number of clips installed, whilst also monitoring the error log. The machine installs 4 clips simultaneously across two rails and has a sleeper lift function for new construction projects. The maneuvering unit is now cordless to be more flexible for the operator.

→ TECHNICAL FEATURES

Compatible with a broad range of Pandrol clips

Suitable for use with the Pandrol Fastclip, the Pandrol e-Clip, and Pandrol PR-Clips (PR400 Series) there are a wide range of options for automatic clipping.

Whisper quiet operation

Operating at 78.5 decibels (at 1 metre) at full throttle, the CD400SP IQ is easily drowned out by ambient traffic noise (80Db).

Pandrol-quality systems

A reliable and robust machine that gets the work done. With Pandrol quality machinery, a reduced requirement for maintenance saves you time and money.

Transport mode

The machine can be lifted up into a transport mode to prevent collision with sleepers and shoulders.

Hydraulic system

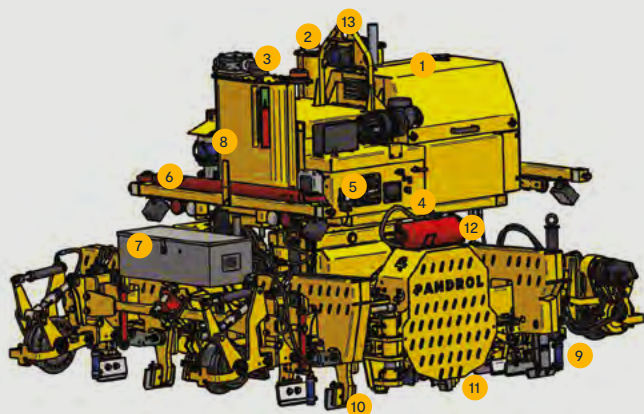
Load sensing system that reduces the oil temperature and improves the life cycle of components.



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→ ADVANTAGES

- The EU Stage 5 diesel engine increases fuel efficiency, reduces emissions, and dramatically reduces noise.
- Proximity sensors and automatic clipping function simplify the operation and help the operator to optimize the production rate.
- Pandrol's guiding rollers centre the machine in work mode for impressively precise work.
- Uses a wireless control panel.



→ COMPONENTS

- | | |
|----------------------------|---|
| 1. Motor / engine | 8. Emergency operation pump |
| 2. Diesel fuel tank | 9. De-clipping tool Fastclip |
| 3. Hydraulic oil tank | 10. Clipping tool Fastclip |
| 4. Display | 11. e-Clip module with de-clipping tool |
| 5. Manual operation levers | 12. Fire extinguisher (option) |
| 6. Tow bar | 13. Lifting point |
| 7. Toolbox | |

→ SPECIFICATIONS

Technical data	
Description	Clip Driver CD400SP IQ
Clips	FE / FC / e-Clip / PR401
Engine	Hatz diesel type 3H5OT - 70 litres tank
L x W	3220 mm x 2290 mm
Height	From top of rail 1830 mm - work. Total when parked alongside track 2110 mm - transport
Weight	3075 kg total weight with tools for clipping and declipping Pandrol Fastclip, sleeper lift and guiding rollers
Clipping / Declipping	Up to 4 clips per cycle (e-Clip declipping: 2 clips per cycle)
Track gauge	1000 mm, 1067 mm, 1435 mm, 1520 mm, 1600 mm (others on request)
Rail wheels U/C	S1002 - profile Ø 250 mm
Capacity	Up to 40 sleepers/min
Sleeper lift	Grip force, sleeper 1200 - 12000 Kp. Lifting force 350 - 3500 Kp. Lifts low laying sleepers of 90 mm
Electrical system	24 V
Hydraulic system	LS system Maximum 200 bar
Hydraulic tank	70 litres
Braking distance	Max 5 m
Noise at 1 meter	Full throttle front 78.5 dB (A), Full throttle right 77 dB (A), Full throttle rear 75 dB (A), Full throttle left 6 dB (A)
Clip offset	Yes

Standard compliance

- Machinery directive: 2006/42/EC
- Electromagnetic compatibility (EMC): 2014/30/EU
- Safety of machinery - General principles for design Risk assessment and risk reduction: EN ISO 12100:2010
- Safety of machinery - Electrical equipment - EN 60204-1
- Safety of machinery - Control systems: EN ISO 13849-1:2015

Approved by

- Network Rail product acceptance No: **PA05/06369**

Sleeper Replacer SB40/SB60

Rail and Sleeper Handling

Adding Value

Increases safety by reducing the number of people needed to carry out clipping during re-sleeper operations.



SB40 and SB60 Sleeper Replacers are attachments designed to replace sleepers safely and efficiently.

The SB60 has innovative tilt and rotate functions that allow sleepers to be changed from both the middle and the side of the track. The SB40 provides the same cost-effective, safe solution, but has been designed specifically for smaller carrier machines (weighing 8 to 12 tons) that are equipped with a permanently fitted tilt rotator. It is approximately half the weight of the SB60.

Both attachments can be combined with Pandrol's Auto Master clipping attachment for swift, safe installation of Pandrol's FC and FE Fastclips on new sleepers.

→ TECHNICAL FEATURES

Single versatile attachment

The SB40 and SB60 Sleeper Replacers dig out, remove and replace sleepers using a single attachment.

Compatibility

The Sleeper Replacers are compatible with most types of sleepers and are available in various track gauges.

Tilt and rotation

The SB60 Sleeper Replacer can be tilted and rotated, allowing sleepers to be changed from both the middle and side of the track.

Compact design

The Sleeper Replacers are compact in design and the SB40 is particularly lightweight.

Attachments

Several accessories are available for the Sleeper Replacers, including the Auto Master for automatic clipping. The SB60 SKR Automaster can be complemented with buckets for excavating ballast or wet materials.

→ ADVANTAGES

- Pandrol's Sleeper Replacers are high-performance machines that increase productivity and save time.
- Because the Sleeper Replacers can dig out, remove and replace the sleeper with one attachment, they offer a simple, cost-effective option.
- Fewer people are needed on track to carry out sleeper replacement, improving safety.
- When fitted with an Auto Master attachment, the Sleeper Replacers can also be used for fast, efficient installation of Pandrol's FC and FE Fastclips.
- The SB60's innovative tilt and rotate functions create maximum flexibility, allowing sleepers to be changed from both the middle and side of the track.
- Because the blade remains stationary and only the grapple rotates, the SB60 is suitable for use in limited spaces such as station platforms and tunnels.
- The SB40 has been designed specifically to be lightweight and is the ideal choice for smaller carrier machines weighing 8 to 12 tons.

SB40



SB60



→ COMPONENTS

SB40

1. Dozer Blade
2. Adjustable rollers for different rail and sleeper types
3. Sleeper grab

SB60

1. Dozer Blade
2. Adjustable rollers for different rail and sleeper types
3. Tilt function (optional)
4. Continuous rotation
5. Sleeper grab

→ SPECIFICATIONS

Technical data

Description	SB40 1435 mm	SB60 1435 mm	SB60 1000 mm	SB60 1067 mm	SB60 1520 mm	SB60 1600 mm
Rail type	60 kg/m 50 kg/m	60 kg/m 50 kg/m	60 kg/m 50 kg/m	60 kg/m 50 kg/m	60 kg/m 50 kg/m	60 kg/m 50 kg/m
L x W x H	1370 x 2590 x 1035 mm	1545 x 2590 x 1695 mm	1545 x 2240 x 1695 mm	1545 x 2305 x 1695 mm	1545 x 2755 x 1695 mm	1545 x 2840 x 1695 mm
Weight	530 kg	1075 kg	945 kg	1030 kg	1095 kg	1110 kg
Blade width	2590 mm	2590 mm	2240 mm	2305 mm	2755 mm	2840 mm
Clamping force	1400 kg	1400 kg	1400 kg	1400 kg	1400 kg	1400 kg

Accessories

Auto Master	For automatic clipping of Pandrol's FC and FE Fastclips
Bucket Attachment	The SB60 SKR Automaster can be complemented with buckets for excavating ballast or wet materials.

Standard compliance

- Machinery directive 2006/42/EC
- Electromagnetic compatibility (EMC) 2014/30/EU
- Safety of machinery – General principles for design. Risk assessment and risk reduction EN ISO 12100:2010
- Safety of machinery – Control systems EN ISO 13849-1:2015

Approved by

- Network Rail product acceptance No: **PA05/04237** (for SB60 SKR Automaster)

Auto Master

(For Sleeper Replacers SB40/SB60)

Rail and Sleeper Handling

Adding Value

Increases safety by reducing the number of people needed to carry out clipping during re-sleeper operations.



Rosenqvist Rail's Auto Master has been developed for use when installing Pandrol FC and FE Fastclip products as part of re-sleeper operations. A carrier-mounted attachment, it is available as an accessory for the Sleeper Replacers SB40 and SB60.

The Auto Master enables clipping to take place automatically, as part of a seamless process. With six to eight fewer people required on track to perform the operation, the machine has a major impact on site safety.

Self-centring and with a high working capacity, the Auto Master is an excellent choice for simplifying and accelerating re-sleeper operations on all standard varieties of rails and sleepers.

→ TECHNICAL FEATURES

Automation

The Auto Master installs clips automatically, controlled by the machine's operator from the cab of the carrier machine. New sleepers are clipped onto the rail at the press of a button.

High working capacity

The Auto Master can clip approximately 20 to 30 sleepers an hour.

Clip compatibility

The machine can be adjusted to accommodate a range of different clip assemblies, including Fastclip FC and FE.

Energy use

The machine is hydraulic and requires no extra power from the carrier machine.

Carrier-mounted attachment

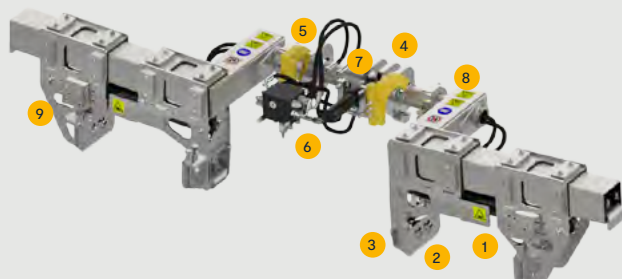
The Auto Master is available as an attachment for the Sleeper Replacer SB40 (the unit weighs 220kg) and for the SB60 (weighs 260kg).

→ ADVANTAGES

- The Auto Master is extremely easy to use, enabling new sleepers to be clipped onto the rail at the press of a button.
- With an hourly capacity of approximately 20 to 30 sleepers, the machine improves the rate of operation.
- The machine is versatile and can be used for all standard varieties of rails and sleepers, as well as a range of different

clip assemblies.

- The Auto Master is a cost-effective option because it minimises the number of people needed for clipping during re-sleeper operations.
- As a result, it also increases site safety by reducing the number of people on track.



Auto Master with SB60



→ COMPONENTS

1. Clipping cylinder
2. Clipping pad Adjustable height +20mm
3. Support roller Adjustable height +20mm
4. Bracket Gradually adjustable in height +25mm
5. Stop and transport lock (bolt)
6. Turn cylinder
7. Mounting plate
8. Adjustable stop with spring damping (2X)
9. Block for setting clamp measure

→ SPECIFICATIONS

Technical data

Description	Auto Master SB40	Auto Master SB60
Maximum rail height	213 mm	213 mm
L x W x H	540 x 2530 x 495 mm	540 x 2530 x 500 mm
Weight	220 kg	260 kg
Installation force	40 kN (190 bar)	40 kN (190 bar)
Maximum tool grapple opening over rail	610 mm	610 mm

Standard compliance

- Machinery directive 2006/42/EC
- Electromagnetic compatibility (EMC) 2014/30/EU
- Safety of machinery – General principles for design. Risk assessment and risk reduction EN ISO 12100:2010
- Safety of machinery – Control systems EN ISO 13849-1:2015

Approved by

- Network Rail product acceptance No: **PA05/04237**

Sleeper Grabber SG60

Rail and Sleeper Handling

Adding Value

Capable of handling both sleepers and rail, the Sleeper Grabber improves installation efficiency and sleeper reuse.



Rosenqvist Rail's Sleeper Grabber SG60 is a high-performance tool for heavy-lifting track procedures.

The Sleeper Grabber has been specifically developed to handle sleepers and rail sections efficiently. By avoiding damage to sleepers, it facilitates their reuse.

The Sleeper Grabber's design is based on Pandrol's Sleeper Replacer SB60, which has a time-tested track record for reliability.

→ TECHNICAL FEATURES

Fast operation

The Sleeper Grabber SG60 can handle both sleepers and rail in the same set-up, increasing productivity.

Interchangeable arms

Interchangeable grab arms enable the SG60 to accommodate different types of sleepers.

Secure grip

The machine's secure grip minimises the risk of damage to sleepers during maintenance, enabling their reuse.

Hydraulics

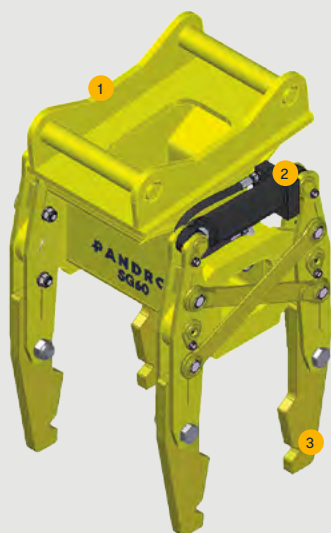
The Sleeper Grabber SG60 requires one double-acting hydraulics outlet (two hoses).

Safety features

The Sleeper Grabber has been designed with safety in mind – workers do not have to put their hands near the sleepers/grip.

→ ADVANTAGES

- The Sleeper Grabber SG60 streamlines the complex sleeper handling procedure, lifting both sleepers and rail sections.
- Secure and gentle handling of sleepers means more can be reused during maintenance, reducing wast.
- Track workers' safety is increased as they do not need to put their hands near the sleepers/grip when using the Sleeper Grabber SG60.
- Based on Pandrol's time-tested Sleeper Replacer SB60, the Sleeper Grabber is a reliable, cost-effective option.



→ COMPONENTS

1. Machine bracket
2. Gripping cylinder
3. Gripping arm

→ SPECIFICATIONS

Technical data		
Description	SG60 Type S45	SG60 Type S60
Rail type	European standard 60 kg/m, 50 kg/m	European standard 60 kg/m, 50 kg/m
L x W x H	608 x 623 x 1128 mm	608 x 623 x 1128 mm
Weight	305 kg	260 kg
Hydraulics required	One double-acting outlet (two hoses)	One double-acting outlet (two hoses)
Clamping force	1400 kg	1400 kg
Installation force	40 kN (190 bar)	40 kN (190 bar)

Standard compliance

- Machinery directive 2006/42/EC
- Safety of machinery – General principles for design
EN ISO 12100:2010 Risk assessment and risk reduction

Rail Trailers RT3230/RT3235

Track Transportation Equipment



Rosenqvist Rail's Rail Trailers RT3230 and RT3235 are designed to transport materials and equipment between railway work sites.

Suitable for towing by a railroad vehicle, with a tow bar and a parking/emergency brake, Pandrol's Rail Trailers provide a safe method of moving goods between work locations.

→ TECHNICAL FEATURES

Safety features

Pandrol's Rail Trailers are equipped with lights and a parking/emergency brake to increase operator safety.

Durable tow bar

A durable tow bar is fitted as standard.

Removable panels

The Rail Trailers have removable panels that allow for easier loading and unloading.

Lifting features

Safer lifting is enabled by integrated lifting ears in each corner and rectangular pipes underneath the Rail Trailers' flatbed.

Stakes

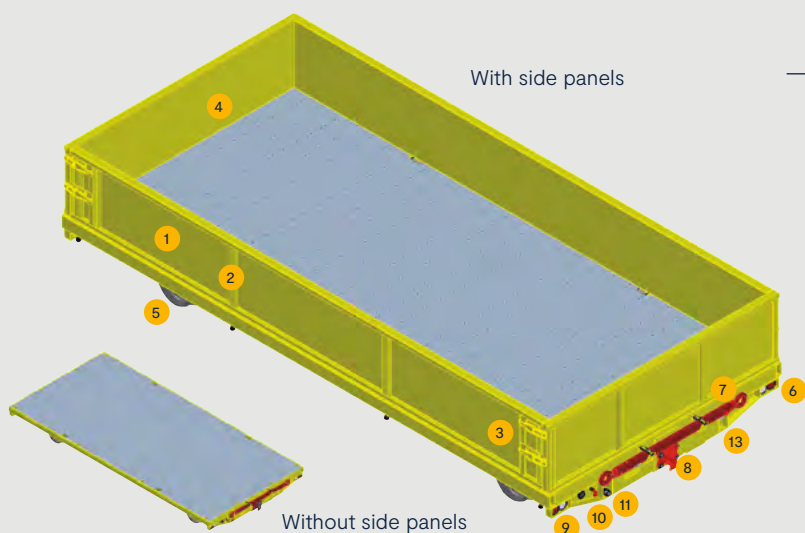
Stakes for holding cargo are included with the RT3230 model.

Lightweight version

The Rail Trailer RT3235 has been engineered as a lighter weight alternative to the RT3230.

→ ADVANTAGES

- Rosenqvist Rail's Trailers are strong, robust and durable, making them a cost-effective, long-lasting solution.
- They come in two sizes, with high loading capacities to cover most requirements.
- Lights and a parking/emergency brake increase operator safety on site.
- Removable side panels allow for ease of loading and unloading.
- The Rail Trailers streamline strenuous track maintenance and transportation tasks.



→ COMPONENTS

- | | |
|---------------------------------|----------------------|
| 1. Side panels | 7. Towing bar |
| 2. Stakes | 8. Towing attachment |
| 3. Side panel lock | 9. Volt meter |
| 4. Front/rear panel | 10. Main switch |
| 5. Rail wheels (w brakes) | 11. Servo pressure |
| 6. Direction lights (white/red) | 12. Lights switch |
| | 13. Battery charging |

→ SPECIFICATIONS

Technical data

Description	RT3230 with side panels	RT3230 without side panels	RT3235 with side panels	RT3235 without side panels
Loading capacity	17000 kg	17000 kg	3500 kg	3500 kg
L x W	5500 x 2560 mm	5500 x 2560 mm	2500 x 1800 mm	2500 x 1800 mm
Loading height	5500 mm	5500 mm	2500 mm	2500 mm
Weight	2685 kg	2295 kg	820 kg	700 kg
Gauge	1435 mm	1435 mm	1435 mm	1435 mm

Standard compliance

- Machinery directive 2006/42/EC
- Electromagnetic compatibility (EMC) 2014/30/EU
- Safety of machinery – General principles for design. Risk assessment and risk reduction EN ISO 12100:2010
- Safety of machinery – Electrical equipment SS-EN 60204-1
- Safety of machinery – Control systems EN ISO 13849-1:2015
- Technical requirements for running and working SS-EN 15954-1
- General safety requirements SS-EN 15954-2

Sleeper Layer

SL400/SL450/SL550/SL650/SL850

Rail and Sleeper Handling



Rosenqvist Rail's range of carrier-mounted Sleeper Layers achieve fast, accurate sleeper laying and spreading, with an easily adjustable tool designed to fit most kinds of sleepers. The SL400 can handle four sleepers simultaneously, while the SL850 can handle up to eight at a time.

A telescopic frame makes the Sleeper Layers compact and safe to operate. A unique, patented linkage system ensures that the centre of gravity does not change during sleeper spreading. The SL400 and SL450 work in hydraulic sequence and no electricity is required on the carrier machine.

→ TECHNICAL FEATURES

Telescopic frame

A telescopic frame structure makes the Sleeper Layers compact and easy to manoeuvre safely..

Easy-to-change components

Quick-change gripping claws make changing components quick, simple and safe..

Compatibility

The Sleeper Layers are prepared for both rotator and rototilt and can be easily adjusted to fit most types of sleepers.

High-speed installation

When operated by a fully-trained, skilled operator working under optimal conditions, the Sleeper Layers can cover from 60 to 80 metres per hour (the SL400) to 120 to 150 metres per hour (the SL850)..

Precision gauging hydraulic system

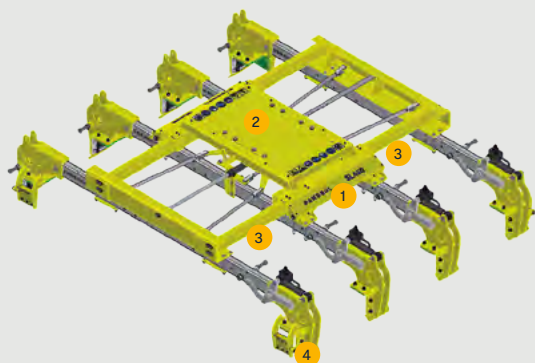
A precision gauging hydraulic system ensures the correct placement of sleepers, which can be set at 300–750mm. No electricity is required on the carrier machine.

Linkage system

A linkage system ensures that the Sleeper Layer's centre of gravity does not change during sleeper spreading.

→ ADVANTAGES

- Rosenqvist Rail's Layers achieve a high output of sleeper laying, from 60 to 150 metres per hour (dependent on the model).
- A precision gauging hydraulic system enables the accurate placement of sleepers.
- The Sleeper Layers' unique linkage system ensures their centre of gravity does not change while spreading sleepers.
- The attachments are compact and easy to manoeuvre safely.
- Easy-to-change components increase efficiency and save time.
- Unlike similar tools, there is no risk of the unit hanging over adjacent track when grabbing sleepers from a rail cart.



→ COMPONENTS

1. Fixed frame
2. Installation plate
3. Telescopic frame
4. Grapple arms

→ SPECIFICATIONS

Technical data					
Description	SL400	SL450	SL550	SL650	SL850
Number of sleepers (Max)	4 pcs	4 pcs	5 pcs	6 pcs	8 pcs
Lifting capacity	Max. 1600 kg	Max. 1800 kg	Max. 2250 kg	Max. 2700 kg	Max. 3600 kg
Length	1000 – 2585 mm	1120 – 2640 mm	1790 – 3770 mm	2000 – 4475 mm	2800 – 6015 mm
Height – Standard	655 mm	780 mm	945 mm	945 mm	945 mm
Height with tilt rotator	N/A	N/A	1400 mm	1400 mm	1400 mm
Height with tilt rotator & bracket (150 mm)	N/A	N/A	1550 mm	1550 mm	1550 mm
Width standard gauge	2 705 mm	Min. 2 855 mm Max. 3 170 mm	Min. 2855 mm Max. 3170 mm	Min. 2855 mm Max. 3170 mm	Min. 2855 mm Max. 3170 mm
Width broad gauge	N/A	N/A	Min. 2965 mm Max. 3335 mm	Min. 2965 mm Max. 3335 mm	Min. 2965 mm Max. 3335 mm
Weight	814 kg w/o rotator/ tilt rotator	1060 kg w/o rotator/tilt rotator	1595 kg w/o bracket 1670 kg w bracket 1870 kg w tilt rotator and bracket	1860 kg w/o bracket 1935 kg w bracket 2210 kg w tilt rotator and bracket	2350 kg w/o bracket 2425 kg w bracket 2700 kg w tilt rotator and bracket
Sleeper distances	750 mm	750 mm	762 mm	762 mm	762 mm
Sleeper lengths	Per request	STD: 2490–2800 mm Narrow: 2220–2530 mm Broad: 2490–3000 mm	STD: 2410–2800 mm Narrow: 2145–2530 mm Broad: 2410–3000 mm	STD: 2410–2800 mm Narrow: 2145–2530 mm Broad: 2410–3000 mm	STD: 2410–2800 mm Narrow: 2145–2530 mm Broad: 2410–3000 mm
Performance: any suitably excavator	Up to 60m/h	Up to 60m/h	Up to 90 m/h	Up to 110 m/h	Up to 150 m/h
Performance: any suitably front end loader	Up to 40m/h	Up to 40m/h	Up to 60 m/h	Up to 75 m/h	Up to 100 m/h

Standard compliance

- Machinery directive 2006/42/EC

Rail Tongs

RG2500/RG3000/RG4800

Rail and Sleeper Handling



Pandrol's Rail Tongs are used to install and maintain continuous welded rail (CWR). The Rail Tongs clip automatically onto the rail being moved and are designed to be fastened to all types of hauling and rail removal equipment.

Three models are available: RG2500, RG3000 and RG4800.

The RG2500 rail grip model, which has an integrated towing support welded onto the side, enables rails to be towed.

The RG3000 has two towing supports and is compliant to AREMA requirements.

The RG4800's four-roller grip design is specifically intended to help prevent damage to rail sections that need to be removed or moved as a single, unified section of rail. Its rolling design enhances overall reliability and minimises potential points of failure. Its high-quality cam bearings are built to last.

→ TECHNICAL FEATURES

Automatic clipping

The tongs automatically clip onto the rail, minimising the risk of damage. This unique design also makes it easy to apply and remove.

Towing Rail

The RG2500 allows the towing of rails due to the towing support welded onto the side of it. When towing rails, turn the support in the towing direction.

Efficient handling of long rails

When replacing rails on an existing track, the RG2500 and RG3000 tool can be used to both remove the old rails and roll the new ones into position. While being lightweight and easy to use, it offers the same power as more traditional alternatives.

Manoeuvrability

When using the roller grip RG4800, the rails only need to be raised very slightly off the ground to enable a proper grip. This uses the weight of the rails themselves, while allowing them to be moved sideways at the same time.

Lightweight and portable

The rail grip are made of high-tensile Swedish steel, with a minimal number of moving parts. As a result, the RG2500 and RG3000 Rail Grip are extremely lightweight, making it easier to move to and from site.

Durability and testing

With high-quality, reliable components, the RG4800 requires very little maintenance throughout its life. It has been tested thoroughly and is supplied with CE certification.

→ ADVANTAGES

- The rail tongs are designed for fast and easy sideways positioning of rails and enables them to be handled smoothly and safely.
- Automatic clipping allows for quick and easy fixing to the rail and minimises the risk of damage.
- Made of high-tensile Swedish steel, the rail tongs are lightweight and portable, easy to move on and off site.
- The rail tongs are compatible for use with all types of hauling and rail removal equipment.
- As a tool it is robust, long-lasting and requires minimal maintenance. As a result, it is more cost-effective than other rail handling systems.

RG2500



RG3000



RG4800



→ COMPONENTS

RG2500

1. Lifting eye
2. Towing support

RG3000

1. Lifting eye
2. Towing support

RG4800

1. Lifting frame
2. Lifting arm
3. Shackle
4. Cam bearing complete

→ SPECIFICATIONS

Technical data

Description	RG2500 Rail Grip	RG3000 Rail Grip	RG4800 Roller Grip
Application rail type	SJ43, UIC50, UIC60, BS113A	132RE, 136RE, 141RE, TR68	Vignol Rail
W x D	160 x 270 mm	160 x 270 mm	310 x 335 mm
Weight	5 kg	7.1 kg	28 kg
Maximum load	2500 kg	3000 kg	4800 kg
Surface treatment	Linseed oil	Linseed oil	Solid Paint RAL1004 Yellow

Standard compliance

- Machinery directive 2006/42/CE
- AREMA (RG3000 only)

Rail fastening systems

Pandrol's extensive rail fastenings portfolio extends across all market segments and can be adapted to all rail networks, climates, and operating conditions.

We offer threaded and non-threaded rail fastening solutions with options for high output mechanised track fastening installation and extraction. Our range includes track systems suitable for heavy haul (>40 T axles) through to metro, conventional, light rail, and semi to full high-speed applications (250< kph). Pandrol fasteners allow rail operators to maximise operational availability, safety, and life-time value through the deployment of optimum materials and world leading engineering design.



Pandrol track fastenings are precisely engineered to optimise track performance and longevity. We offer complete systems for concrete, timber, composite, steel and pre-cast blocks, and ballastless concrete slab track. Pandrol is a global systems provider, supporting train operators around the world.

- Our solutions offer a high level of safety, reliability, and predictability for network operators – customers know what to expect when buying from Pandrol.

- We offer fastening systems for mechanised installation, saving time and manpower with their value-engineered design.
- Pandrol deliver innovative fastening solutions for track challenges including noise and vibration control, low carbon, and anti-theft. We also offer support services, tools, mechanised equipment, and special solutions for ports, turnouts, embedded rail, and depots, as well as treatments for anti-corrosion environments.

Sustainable Resilient Systems

Track resilience plays a key role in the vibration mitigation and longevity of railway infrastructure, resulting in reduced maintenance costs. Pandrol is a leading provider of Sustainable Resilient Systems based on recycled rubber technology – we provide solutions for rail networks across the globe for noise & vibration control and embedded rail systems, offering the lowest CO2 footprint in the market.



Long-term planning of railway network systems is placing increased emphasis on eco-friendly railed public transportation. This involves connecting more towns and cities with high speed, conventional, metro, and light trains. Pandrol Sustainable Resilient Systems are being adopted by rail network operators across the world thanks to their resilience properties and green credentials. Enhance the lifespan of your infrastructure and protect surrounding buildings from vibration whilst also making rail greener.

Our systems are able to:

- Reduce the life cycle costs associated with the track and maintenance
- Improve the railway track life thanks to a sustainable recycled technology that helps rail networks meeting their CO2 targets
- Meet the vibration control demands of all types of track

i+weld

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