CONTRAIL MACHINERY

TECHNICAL BROCHURE



FLASH BUTT WELDING SOLUTIONS

www.contrailmachinery.com

FROM ENGINEERING TO THE TRACK.



Rail Welding Solutions · Railway Equipment · Technical Services



Designed by professionals, perfected by the field

Proven expertise

We have supported railway projects with specialized equipment and field-tested engineering.

In-house engineering

Our products are designed and manufactured by Contrail teams under one roof.

Project-specific solutions

Each system is configured around the project's rail profiles, operating conditions and workflow.

Innovation & Excellence

At Contrail Machinery, we combine proven technologies with modern solutions, integrating customer feedback to continuously improve our products.

CONTRAIL MACHINERY

Contrail Machinery designs and manufactures equipment for railway construction and maintenance, with a core focus on rail flash-butt welding systems.

Since 2010, our in-house engineering and production teams have delivered customized machinery and technical solutions for railway projects worldwide.





Your partner in building rail infrastructure

Our goal is to become a trusted global reference in rail welding technology by delivering reliable, high-performance machinery and technical support for railway projects worldwide.

CORE PRINCIPLES

Customer commitment: We work as a long-term partner, focused on each customer's operational success.

Engineering quality: We prioritize reliable performance and consistent manufacturing standards.

Knowledge & growth: We support our teams and customers through ongoing technical training.

Continuous improvement: We refine our products, services and processes through field experience and customer feedback.

Our products

Flash-Butt Welding Machines

Contrail Machinery provides a wide variety of Flash-Butt Welding Machines, designed and manufactured entirely within the company, taking into account the particularities of each project and the needs of each client.

In our portfolio, you will find various machines and equipment, such as welding equipment type CR65 and CR100 type, as well as CR100P (including Closure Rail Puller type CRP160), all of them available in several configurations, such as FBW Equipment Kit, FBW Container and FBW Mobile Machine.



WELDING MACHINES CONFIGURATIONS

Built on a robust chassis with standard twist-lock fittings, the FBW Container is enclosed in a weatherproof aluminum body for reliable operation in demanding conditions.



EQUIPMENT KIT

Modular hydraulic power pack, generator and control unit for custom carrier integration.



FBW CONTAINER

Weatherproof aluminum containerized unit with twist-lock fittings for track or depot.



MOBILE FBW

Self-propelled or hi-rail truck mounted welding unit with telescopic boom.

FLEXIBILITY

It can operate as a stationary unit or be transported by rail wagon or road vehicle. Configurations can be adapted to specific project requirements.

// STANDARDIZED TECHNICAL SPECIFICATIONS

Main specifications | Configuration	FBW Container CR65	FBW Container CR100	FBW Container CR100P
Welding head type	CR65	CR100	CR100
Welding head upsetting force (kN)	650	1.000	1.000/1.400*
Upsetting cylinder stroke (mm)	85	110	110/350**
Welding head weight (kg)	2.900	3.800	3.800/1.250***
Crane lifting capacity (kg)	3.500	5.000	8.000
Rail puller included	NO	NO	YES
Container dimensions (mm)	6.075x2.550 x2.550	7.075x2.550 x2.550	8.075x2.550 x2.600
Container weight (kg)	16.400	17.300	20.250

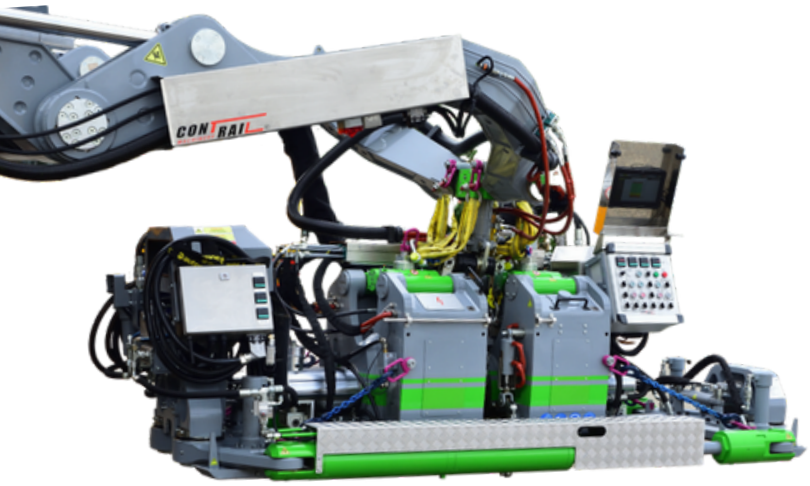
* Rail puller - pulling force ** Rail puller -pulling cylinders stroke
*** Rail puller - weight

WELDING HEAD TYPES

Contrail welding heads use pulse flash-butt welding for rail sections from 5,000 to 12,000 mm². Their compact design supports efficient operation and maintenance across demanding rail projects.

Main specifications | Welding Head types	CR65	CR100
Rated main voltage	400/480 V at 50/60 Hz	400/480 V at 50/60 Hz
Power at DC = 50%	240 kVA	357 kVA
Working hydraulic pressure	165 bar	270 bar
Rated upsetting force	650 kN	1.000 kN
Welding head weight	2.900 kg	3.800 kg
Rail profiles	40-75 kg/m	40-75 kg/m
Welding grooved rail	YES	YES

Engineered for consistent weld quality, high productivity and precise alignment.

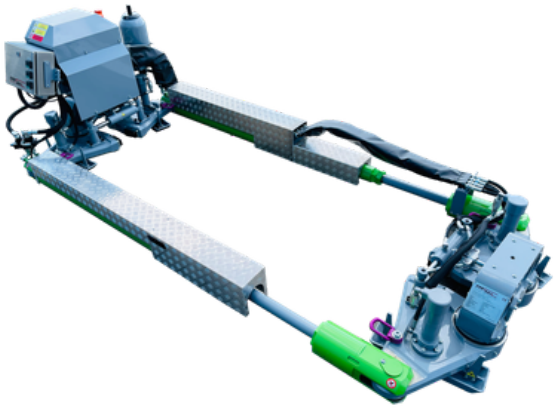


Closure Rail Puller

The CRP160 Closure Rail Puller applies up to 140 tons (1,400 kN) of force for closure welds. Designed for the CR100P, it operates in sync with the welding head during the welding cycle.

Once connected, the interface activates automatically. The operator enters the rail temperature and length, and the system calculates the required rail gap.

Main specifications Puller type	CRP160
Maximum pulling force	1.373 kN (140 tons)
Pulling stroke	380 mm (15,0 in)
Hydraulic input pressure	280 bar (4,061 psi)
Clamping force	800 - 1200 kN



OTHER SPECIALIZED EQUIPMENT

Upon request, Contrail Machinery designs and manufactures specialized vehicles, machinery and equipment for unique railway applications.

Rail Bending Press

The Rail Bending Press type RBT326 is a rail bend tester configurable for 3 points bending (EN) or 4 points bending (AREMA), and operates in both contained laboratory or standalone configuration.

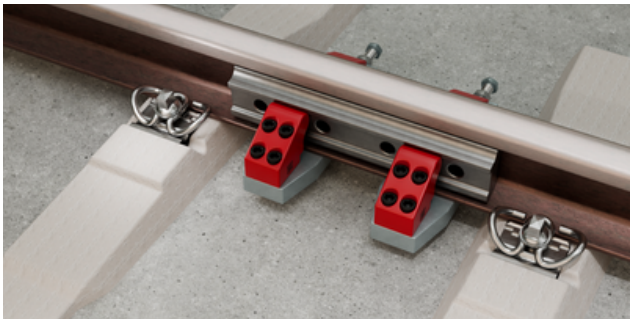
The rail bend tester model RBT326 it complies with the bend test procedure listed in EN 14587-1, EN 14587- 2, EN14730-1 and AREMA norms.



Main specifications | Rail Bending Press type	RBT326
Maximum force capacity	3194 kN (326 t)
Maximum feed rate (low pressure)	6 mm/s
Minimum loading rate	40 kN/s
Piston stroke	152 mm
Hydraulic working pressure	700 bar
Power supply	400V 50hz
Total power installed	2,2 kW
Dimensions (length x width x height)	1.950 x 1.050 x 1.950 mm

Low Profile Clamps (LPC)

Low Profile Clamps are temporary fastening devices designed to securely hold rail sections together without the need for drilling. They are available in a range of sizes tailored to fit specific rail profiles. Ideal for short-term use when a welding machine is unavailable, they provide a stable connection with minimal disruption to track operations.










WELD.
MOVE.
DELIVER.

OUR SERVICES

Refurbishments and Upgrades

Contrail Machinery provides refurbishment and upgrade services for both our equipment and third-party machines. On request, we enhance functionality, boost performance, and extend equipment lifespan through tailored modernizations.





Training & Technical Assistance

We offer specialized training and expert guidance in electric rail welding, delivered by experienced engineers and skilled technicians. Our goal: to equip professionals with valuable insights and hands-on expertise.



On-Site Servicing & Troubleshooting

We offer prompt on-site service and troubleshooting for all Contrail Machinery equipment, ensuring minimal downtime and fast recovery—thanks to our team of skilled specialists.



Spare Parts

We supply high-quality, custom-made spare parts for various railway machines—ensuring perfect fit and performance for every project.

Research & Development

Backed by a large in-house team of engineers and production specialists, Contrail Machinery is constantly developing new products tailored to our clients' specific needs.



Our commitment to continuous improvement drives us to enhance performance, reliability, and efficiency while reducing weight and complexity. We ensure our solutions stay ahead of industry standards by integrating cutting-edge materials and the latest manufacturing technologies.







BUILT FOR PERFORMANCE.
BACKED BY EXPERTISE.



Trusted worldwide.
Built to perform anywhere.



Have a project in mind? We're just a message away.

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