



TECHNOSVAR
TECHNOLOGICAL CENTER



RAIL WELDING
EQUIPMENT



ABOUT THE COMPANY

Technosvar is a leading engineering and manufacturing company that creates innovative solutions in the field of electric welding equipment. For 20 years, we have been designing, manufacturing, and supplying high-tech rail welding equipment, which combines high efficiency, reliability, and durability. Our key advantage is a quality guarantee at every stage: from design to commissioning.

We provide:

- Advanced technical solutions that meet international standards.
- Professional commissioning and start-up services carried out by experienced specialists.
- Prompt service support – both during the warranty and post-warranty periods.

TECHNICAL SERVICES

The advantages of the Technosvar service are the competence of its personnel, the use of high-quality materials for spare parts, and genuine components.

Main types of service for rail welding equipment:

- supply of spare parts and components
- commissioning after equipment repair or prolonged shutdown
- fault diagnosis
- ongoing repairs at the Customer's premises
- overhaul at the manufacturer's plant
- modernization with overhaul at the manufacturer's plant
- instruction of operational, maintenance and engineering personnel
- other maintenance services upon Customer's request

OUR PARTNERS



Российские железные
дороги



Московский
метрополитен



Железные дороги
Казахстана



Железные дороги
Узбекистана



Белорусские
железные дороги



Санкт-Петербургский
метрополитен



Литовские железные дороги



1. Rail welding equipment:	
• stationary rail welding machine T-1000	4
• stationary rail welding machine T-924/925	5
• mobile rail welding machine T-600	6
• mobile rail welding machine T-1400	7
2. Mobile rail welding complex on combined undercarriage KRSM-001	8
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4. Automatic machine for multi-pass welding of straight seams TS-1500	10
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6. Testing equipment:	
• press for testing welded joints HERCULES-300	12
7. Spare parts	13



STATIONARY RAIL WELDING MACHINE T-1000

Designed for contact butt welding by continuous or pulsed melting in stationary conditions of rails with a cross-sectional area of 5000 mm² to 10000 mm² with deburring immediately after welding, with the possibility of welding rail sections containing insulated joints.



TECHNICAL SPECIFICATIONS

Parameters		Value
Mains voltage, V		380
Mains frequency, Hz		50
Maximum secondary current, kA, not less than		84
Nominal continuous secondary current, kA		19
Short-circuit power, kVA		600
Welding power at PV=50%, kVA		180
Maximum working pressure in the hydraulic system, MPa		20
Maximum sedimentation rate, mm/s		30
Maximum settlement force, kN		800
Maximum clamping force, kN		2000
Weight of delivery set, kg		12850
Overall dimensions, mm:	- welding machine	5650×1640×2780
	- control cabinet	1290×690×1730
	- pumping station	1300×740×1420
	- cabinet for recording system	690×690×1750



Designed for contact butt welding by pulsed melting in stationary conditions of railway crossings made of special steel with corresponding rail ends or for welding rails up to 195 mm high and with a cross-sectional area of up to 15,000 mm².

TECHNICAL SPECIFICATIONS

Parameters	Value
Mains voltage, V	380
Mains frequency, Hz	50
Maximum secondary current, kA, not less than	55
Nominal continuous secondary current, kA	19
Short-circuit power, kVA	400
Welding power at PV=50%, kVA	180
Maximum working pressure in the hydraulic system, MPa	21
Maximum sedimentation rate, mm/s	200
Maximum settlement force, kN	1500
Maximum clamping force, kN	4000
Weight of delivery set, kg	42000
Overall dimensions, mm: - welding machine	4985×2890×3700
- control cabinet	1290×690×1730
- pumping station	1300×745×1420



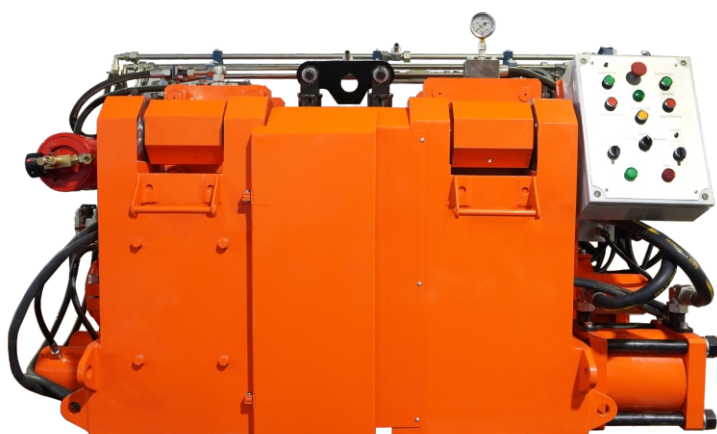
T-600 MOBILE RAIL WELDING MACHINE



Designed for contact butt welding with continuous or pulsed melting of rails with a cross-sectional area from 6500 mm² to 10000 mm² with deburring immediately after welding in field conditions. The machine can be used in stationary conditions.

TECHNICAL SPECIFICATIONS

Parameters	Value
Mains voltage, V	380
Mains frequency, Hz	50
Maximum secondary current, kA, not less than	63
Nominal continuous secondary current, kA	22
Short-circuit power, kVA	400
Welding power at PV=50%, kVA	150
Maximum working pressure in the hydraulic system, MPa	13
Maximum sedimentation rate, mm/s	200
Maximum settlement force, kN	600
Maximum clamping force, kN	1200
Weight of delivery set, kg	3838
Overall dimensions, mm: - welding machine	1700×1060×1030
- control cabinet	1300×745×142,7
- pumping station	1160×660×1615



Designed for contact butt welding with continuous or pulsed melting of rails with a cross-sectional area of 6500 mm² to 10000 mm², with burr removal immediately after welding in field conditions. It has the ability, due to the increased force of 140 tonnes, to weld long rail strands on the track (to tighten the strands). The machine can be used in stationary conditions.

TECHNICAL SPECIFICATIONS

Parameters	Value
Mains voltage, V	380
Mains frequency, Hz	50
Maximum secondary current, kA, not less than	67
Nominal continuous secondary current, kA	24
Short-circuit power, kVA	500
Welding power at PV=50%, kVA	258
Maximum working pressure in the hydraulic system, MPa	23
Maximum sedimentation rate, mm/s	200
Maximum settlement force, kN	1400
Maximum clamping force, kN	2800
Weight of delivery set, kg	5000
Overall dimensions, mm: - welding machine	1860×1050×1300
- control cabinet	1200×600×1600
- pumping station	1270×740×1530



MOBILE RAIL WELDING COMPLEX ON COMBINED UNDERCARRIAGE KRSM-001

Designed for contact butt welding of P50, P65 and other types of rails in field conditions during the repair and construction of railway and tram tracks. The KRSM-001 complex, based on a chassis with a combination drive, is designed as an autonomous container unit. The container houses a welding machine, a crane manipulator, a diesel generator set, and other auxiliary equipment.



TECHNICAL SPECIFICATIONS

Parameters	Value
Diesel generator power, κBA	400
Mains voltage, V	380
Mains frequency, Hz	50
Nominal secondary current, kA	22
Maximum secondary current, kA	63
Maximum short-circuit power, kVA	400
Settling force kN, at maximum working pressure in the hydraulic system	500
Power at 50% duty cycle, kVA	150
Settling velocity, mm/s, not less than	25
Joint welding duration, sec	90-240
Angle of rotation of the lift with the welding head in the horizontal direction	110°
Crane boom offset from rail axis, mm	4000
Maximum extension of section with welding head, mm	900
Productivity when welding R65 rails, joints/hour	12
Melting allowance, max., mm	30
Weight of loaded container, kg	14500
Overall dimensions, L×W×H, mm	7000×2500×2800



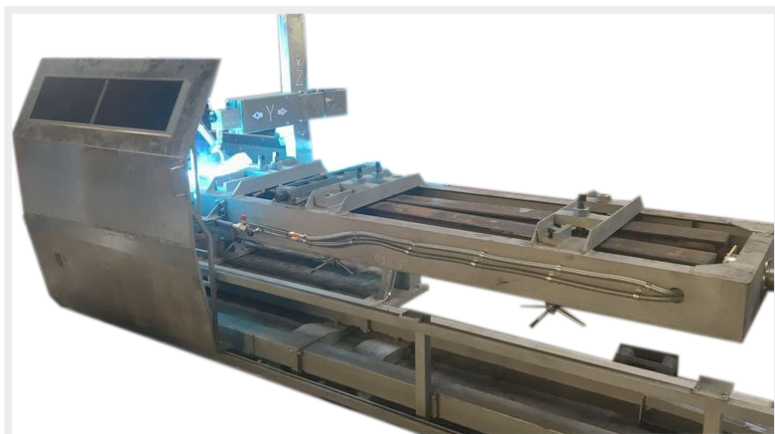
Designed for contact butt welding of P50, P65 and other types of rails in field conditions during the repair and construction of railway and tram tracks. It is designed as a self-contained container unit consisting of a suspended welding machine, a crane manipulator, a pumping station, a diesel generator set, and other auxiliary equipment. The complex can be installed on a vehicle chassis or a railway platform.

TECHNICAL SPECIFICATIONS

Parameters	Value
Diesel generator power, кВА	400
Mains voltage, V	380
Mains frequency, Hz	50
Nominal secondary current, kA	22
Maximum secondary current, kA	63
Maximum short-circuit power, kVA	400
Settling force kN, at maximum working pressure in the hydraulic system	500
Power at 50% duty cycle, kVA	150
Settling velocity, mm/s, not less than	30
Joint welding duration, sec	90-240
Angle of rotation of the lift with the welding head in the horizontal direction	36°
Crane boom offset from rail axis, mm	3600
Maximum extension of section with welding head, mm	900
Productivity when welding R65 rails, joints/hour	12
Melting allowance, max., mm	30
Weight of loaded container, kg	18900
Overall dimensions, L×W×H, mm	12400×2500×2800



AUTOMATIC INSTALLATION FOR MULTI-PASS WELDING OF STRAIGHT SEAMS TS-1500



The unit is designed for automatic multi-pass arc welding with special wire of longitudinal joints of welded core rails. Weld length up to 1500 mm. Multi-pass root, filling and facing welds.

Welding on the head and sole is performed using a turner alternately.

The installation control system provides:

- Manual control of all actuators using a remote operator panel
- Programming of points "A and B" of the weld with program storage in memory;
- Welding with oscillatory movements, adjustable amplitude and delay time;
- Quick changeover for welding different types of rail ends;
- A welding process logging system that records welding parameters for various indicators and maintains a welding archive;
- Monitoring the temperature of the workpieces and controlling post-weld heat treatment after cycle completion.

Welding carriage:

- automatic and manual movement of the carriage along the weld in the range of 0 - 1500 mm
- amplitude of oscillatory movements up to ± 15 mm
- height adjustment – available

Power supply:

- rectified current capacity 500A;
- wire feed device;

Tilting device:

- the tilting device is designed as a frame with elements for fixing welded rails in their initial position;
- the length of the assembly unit is up to 3000 mm, width up to 500 mm, weight up to 500 kg;
- the product can be rotated 180 degrees

Technology:

- development of technology for welding rails with a longitudinal multi-pass seam, with control of the preheating temperature of the product, heating during the welding process and 'high tempering' after welding using induction heating technology.

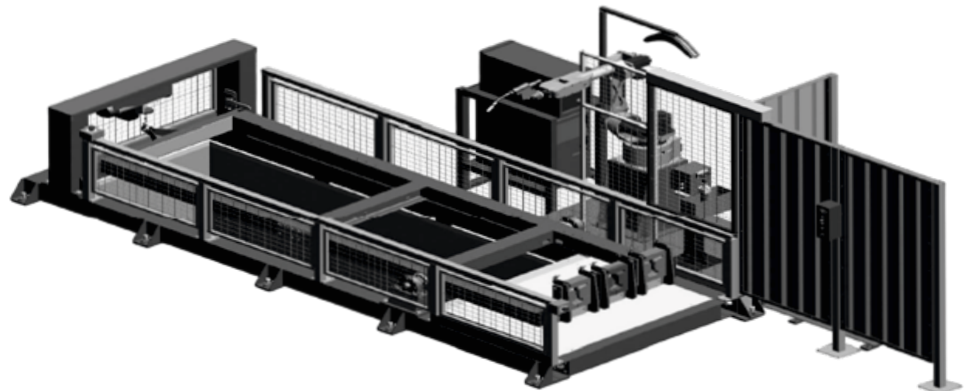
INSTALLATION FOR AUTOMATIC SURFACE WELDING ON THE ENDS OF RAILEND PIECES



The installation is designed for multi-layer arc surfacing with austenitic chromium-nickel wire on the end face of P65 rail parts with a length of 600-3100 mm long and the rail end of a cross-piece 1000-3100 mm long with a layer of special austenitic steel up to 30 mm thick.

Surfacing is performed with forced formation of the side surfaced surface. The welding process control system is equipped with a device for recording the main welding modes in memory - current, voltage, welding wire feed speed and other parameters affecting the quality of surfacing.

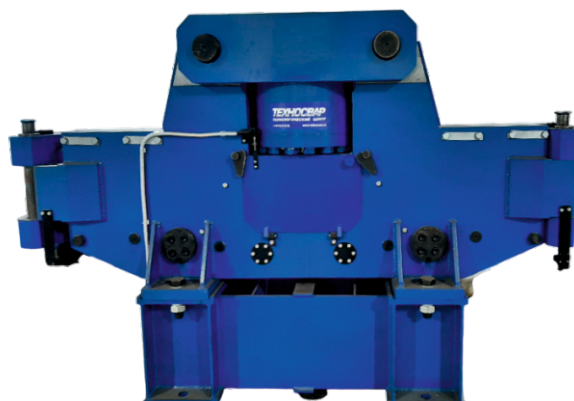
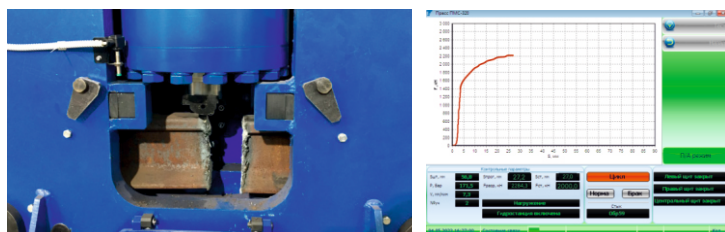
The installation software allows the development of control programmes for a welding complex for surfacing the ends of rail parts of various profiles.





PRESS FOR TESTING WELDED JOINTS HERCULES-300

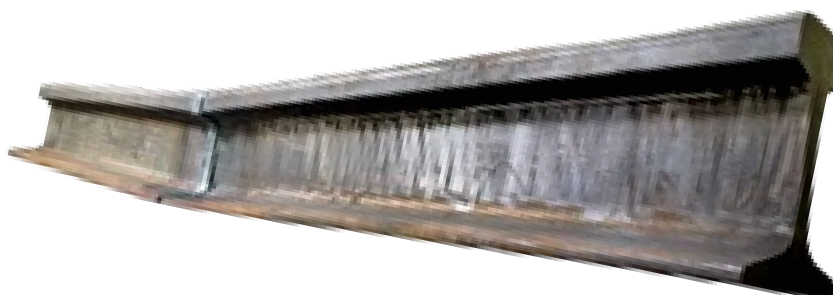
Designed for quality testing of rail welded joints by static transverse bending test of control samples.



TECHNICAL SPECIFICATIONS

Parameters	Value
Mains voltage, V	380
Nominal voltage of a diesel power station	400
Mains frequency, Hz	50
Maximum force, T, not less than	300
Maximum deflection	60
Length of test samples, mm	1100...1800
Working pressure in the hydraulic system, MPa	40
Overall dimensions L x W x H, mm: Press Hydraulic station Control cabinet	2200x560x1540 670x435x725 625x450x1750
Weight, kg Press Hydraulic station Control cabinet	3260 105 130

'The 'GERCULES-300' is listed in the State Register of Measuring Instruments.
(register number: 92860-24)



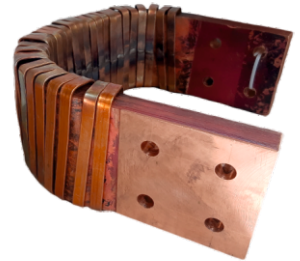
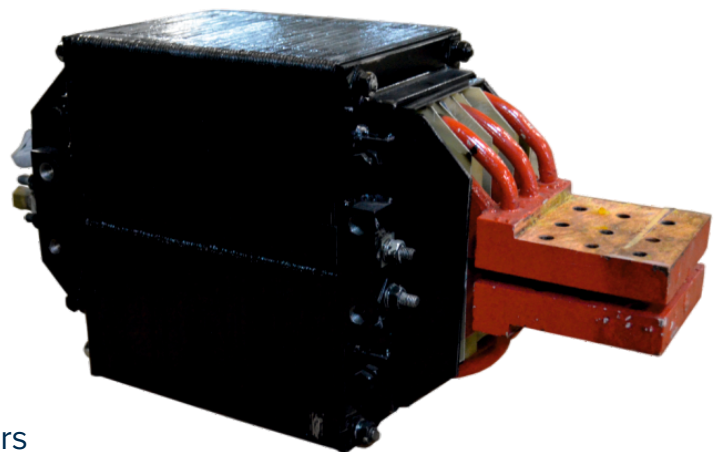
ГОСРЕЕСТР
СРЕДСТВ ИЗМЕРЕНИЙ



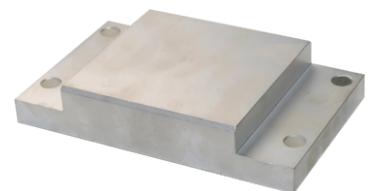
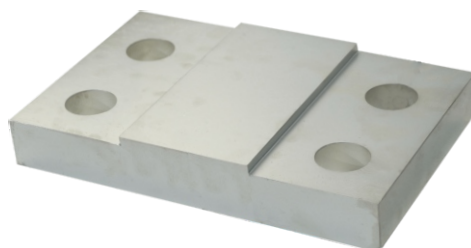
Current leads



Shearing knives

Flexible
copper busbars

Transformers



Contact electrodes



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