



Progress Rail Welding (PRW) offers several Containerized Rail Welding System's one of which is the Model K950 Flash Butt system. This System is Self-contained and fully enclosed, shipped ready for service. The design of the enclosure and base provides for the unit to be mounted as a static plant welder or installed directly on a truck chassis (or flat wagon of a proper height) for mobile operation in-track.

Safety and operational reliability are design priorities for PRW equipment. The System operates with high flash point Hydraulic fluid, The Weldhead's electrical cables and hoses are fitted with fire resistant shields and abrasion resistant covers.

Operating Power is furnish by an integrated diesel generator. Thermal heat rejection is design into the systems core providing a platform for worldwide operations in every railroad environment.

The K950 containerize system is equipped with a state of the art process controller. Attention to weld quality is addressed using preset parameters adapted to our

customer's requirements. Operational control is provided by a HMI computer which also records and stores each weld's certificate providing the customer with a permanent record of the quality of welds produced by the system.

Electric motors supply hydraulic power for the weld head, crane and thermal rejection systems. Hydraulic oil filtration and waste heat rejection is incorporated in the system's design. The Hydraulic system is monitored and controlled by the system's programmable logic controller for optimal performance.

Excess electrical heat is expelled by a chiller system which transfers heat from electrical contact points in the weld head and electrical boxes to atmosphere using air over fluid radiators.

The System is provided with a dedicated purpose twin boom crane designed to work with the Model K950 Weld head. This rugged crane is used to lower, elevate, rotate and cradle the weld head when not in use.

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A Caterpillar Company

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K950 CONTAINERIZED WELDING SYSTEM



K950 Weld head Specification and Features

Rail welding is carried out by utilizing the principle of flash resistance welding. The K950 machine can weld rails with a cross section up to 12,000mm². Integrated with the welding head is a flash removal device (Internal Shear).

Production Rate

Note: production rates dependent on site conditions rail geometry and preparation.

- Up to 12 welds per hour (flash removal included) for regular process
- Up to 18 welds per hour (burr removal included) for pulse process

Advantages of the K950

The Model K950 is designed to provide the highest standard of quality rail welds in-track. The Weld head is able of 120T of pulling force. The Model K950 completes a welding cycle from aligning to flash removal in one automatic sequence.

Hydraulic system of K950 is equipped with hydraulic accumulator that provides high upset velocity ensuring good weld quality on rails with high Si content.

The clamping cylinders of K950 are equipped with internal pressure intensifiers. This increases the mechanical clamp advantage to prevent slippage during welding process and ensure proper forging.

PRW State of the Art Control and Data System

The automatic welding process is under the supervision of an Allan Bradley Programmable Logic Controller (PLC). This control system has been proven in more than 200 welding plants around the world. The PLC both monitors and controls current, voltage, pressure, and distance transducers mounted throughout the system. The PLC combined with the PRW Weld Monitoring Software, records the critical parameters and controls the welding process. This cutting edge system of current and voltage feedback automatically compensate for deviations which occur during the welding process. This state of the art system is capable of storing a wide range of customer welding programs.

Technical Data

Progress Rail Containerized Rail Welder Model K950

DIESEL POWER STATION:	380V/50Hz (460V/60Hz)
RATED PRIMARY CURRENT (50% DUTY CYCLE):	540Amps
RATED POWER (50% DUTY CYCLE):	210KVA
RATED WORKING HYDRAULIC PRESSURE:	3200PSI
RATED UPSET FORCE:	1200KN (120000KGF)
RATED CLAMPING FORCES:	2900KN (290000KGF)
MASS:	3200KG
OVERALL DIMENSION (W*H*L):	1000x970x1895mm

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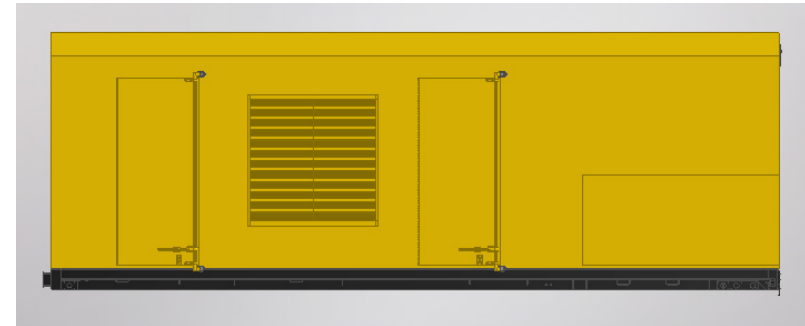
State of the Art Control Unit

Welding Machine control consists of:

- Allen Bradley Industrial Controller with self-diagnostic for the automatic sequence of operation.
- Operators control panel (located at welding head) for machine functions.
- Emergency stop buttons
- HMI Computer with PRW System Software and data collection

Typical sequence of welding program follows:

- Preheating stage
- Flashing stage
- Boost stage
- Upset
- Forging stage
- Shearing of excess weld material
- Release of machine from rails



Containerized Welding System

Container Dimensions / weights

Length:	22'-6" (7444mm)
Width:	8'-0" (2447mm)
Height:	8"-8 3/8" (2652mm)
Approximate Weight Depending on Options:	37,478lbs (17,000kg)

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