

Welding Systems

For Collision Repair Specialists

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BLACKHAWK

High-Frequency Inverter Welders

Blackhawk inverter welding machines produce unequalled performance by utilizing the following technology:

Harmonized Power Components

All components are matched for electrical and thermal capacity in order to eliminate unnecessary heat that can cause power loss.

Innovative Power Transformer Design

Integrated with the other components, the power transformer is designed to minimize loss of energy due to electrical resistance & induction.

Controlled Power Curve Slopes for Welding Pulses

- Minimizes the expulsion of material during welding by gradually heating the metal.
- Eliminates excessive startup currents which can cause shop circuit breakers to trip.
- Eliminates mechanical stress generated by electromagnetic forces on all components on the output side of the transformer circuit.
- Increases the life-span and performance of all electronically-powered components by minimizing heat exposure.

Adjustable Welding Current

Desired welding current amperage can be selected incrementally through the touch pad control panel.

Automated Real-Time Control of Current

Output current at the tips is monitored continually and adjusts automatically to keep current constant.

Open Circuit Protection

Before welding, open circuit protection detects any weak or bad contacts between the electrodes – which can cause premature arcing and poor welds.

Input Voltage Drop Detection

An integrated line drop detection circuit verifies the input voltage levels in order to guarantee adequate operation of the welder. This feature protects the unit when it is used on an inappropriate electrical network.

Clamping Force Measurement

The WEL 800 has sensors and software that detects the clamping force at the tips and provides a digital display of the pressure based on input of the length of accessory electrode arms installed on the welding clamp.



WEL 700 and 750 Productivity-Enhancing Features

Primary Voltage Control

A microprocessor eliminates any fluctuation of incoming power. Welding power is not affected by drops or surges in incoming power.

Shorter Weld Time Requirement

High-frequency technology requires only 600 to 700 milliseconds of weld time (versus 1,200 to 1,400 milliseconds found in competitive units), which results in a smaller heat-affected area and less distortion of metal.

Electronic Microprocessor Power Up

Powering up electronically by microprocessor rather than by mechanical means eliminates the need for multi-stage switches to turn the machine on. No accidental surges or drops occur when the machine is turned on or off. No special precautions are necessary when plugging in or unplugging the welder.

Automatic Instant Capacitor Drain

The capacitors are discharged instantly to eliminate any danger of electrical shock from a stored charge. There's no need to manually drain the capacitors.

Low-to-High Frequency Conversion Control

This feature reduces the loss of frequency and impedance, providing built-in power stability and a lower maximum heat range for the transformer. Welding power is more consistent and the duty cycle is longer.

Auto-Correction of Output Power

This feature systematically monitors welding cable and transformer temperatures through the microprocessor. As temperatures rise and output power decreases, the microprocessor increases power supplied from the transformer so that welds remain consistent. The 200th weld has the same strength as the 20th!

Automatic Double-Pulse Function

Delivers a very short but powerful initial pulse, which is immediately followed by a longer standard welding pulse, permitting the weld of advanced high-strength and heavily-coated steels.

Safety Certified

Safety certified by: CE, CSA, National Research Testing Laboratory (NRTL/C) tested to ULC specifications.

OEM Approved

Approved by: Ford, GM, Chrysler, Nissan, Honda, Renault, Peugeot, Citroen, Toyota and Mercedes-Benz International (WEL 800).





WEL 800 Specifications (Continued...)

Liquid-Cooling Unit

Cooling Liquid:	30% Glycol
Basic Cooling Temperature:	86
Welding Cables Liquid Cooling:	Included
Electrode Arms Liquid Cooling:	Included
Electrode Tips Liquid Cooling:	Included

C-Type Welding Clamp

1,200 lbs.
1,236 lbs./p
185 mm ²
8′

Single Sided Gun

Single Blaca Call	
Welding/Ground Cable Length:	8′
Welding Cables 0:	127 mm ²

Standard Accessories

Trolley
Welding Cable Balancer
Quick-Pull Slide Hammer and Tools
Accessory Tray

WEL 800 Specifications 28CPS823 (230V) and 28CPS805 (480V)

Main Characteristics

Power Requirements:	230/480V, 3Ph, 60Hz
Welding Frequency:	2,000Hz
Welding Current/Type:	14,000 Amps/DC (Rectified)
Main Fuse:	70 Amp (slow-blow)
Dimensions (LxWxH):	34" x 31" x 54"
Main Cable Diameter/Length:	8ga, 10g, 8'
Thermo Protection:	Included
Air Cooling:	Inside unit and gun cables
Liquid Cooling (Clamp):	Cables and electrodes
Shipping Weight:	543 lbs.

WEL 700 Specifications 28CPS713

Power Requirements:	230V, 3Ph, 60Hz
Main Frequency:	60Hz
Welding Current/Type:	10,000 Amps/DC
Welding Current Regulation:	Auto (microprocessor)
Main Fuse:	50 Amp (slow-blow)
Nominal Power/50% ED:	70 KVA
Main Cable Diameter/Length:	8ga, 10g, 8'
Welding Frequency:	2,000Hz
Operating Air Pressure:	80 - 116 PSI (6 - 8 bar)
Electrode Force:	798 lbs. (C-Style)
Electrode Arms Diameter:	20mm
Electrode Tips Diameter:	15.5mm
Welding Cable Diam./Length:	8' (air cooled)
Dimensions (LxWxH):	28" x 18" x 35"
Shipping Weight:	280 lbs.

WEL 750 Specifications

28CPS763

Power Requirements:	230V, 3Ph, 60Hz
Main Frequency:	60Hz
Welding Current/Type:	12,000 Amps/DC
Welding Current Regulation:	Auto (microprocessor)
Main Fuse:	70 Amp (slow-blow)
Nominal Power/50% ED:	70 KVA
Main Cable Diameter/Length:	8ga, 10g, 8′
Welding Frequency:	2,000Hz
Operating Air Pressure:	80 - 116 PSI (6 - 8 bar)
Electrode Force:	1,000 lbs.
Electrode Arms Diameter:	20mm
Electrode Tips Diameter:	15.5mm
Welding Cable Diam./Length:	8′ (air cooled)
Dimensions (LxWxH):	28" x 18" x 35"
Shipping Weight:	280 lbs.

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