



**Operator's Manual
100 Amp Portable Arc Welder
Model ARC100**



WARNING: Do not assemble, install or operate this equipment without reading ALL of this manual and the safety precautions and warnings illustrated in this manual.

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SAFETY PRECAUTIONS AND WARNINGS **PLEASE READ BEFORE USING EQUIPMENT**



WARNING

- Keep children away from this equipment
- Protect your self and others from possible injury
- Pacemaker wearers should consult with their doctor before operating
- Read and follow all instructions in this manual before operating
- All installation, operation, and maintenance procedures are performed only by qualified individuals



ELECTRIC SHOCK CAN KILL.

- The input circuits are also live and hot when the power is on
- Do not touch live electrical parts
- Wear dry, hole free insulated work gloves and body protection when operating
- Do not touch components if in contact with the work piece or ground
- Always turn off power before cleaning, checking, or changing parts
- Properly ground this piece of equipment per state and federal requirements
- Inspect and replace any worn or damaged cables or leads
- Keep all panels and covers securely in place
- Ground the metal or work piece to the ground cable (Earth Clamp)
- Never dip the electrode into water to cool
- This DC equipment holds a lot of power in the off position, before touching, make sure voltage is near zero on input capacitors before touching any parts.



ELECTRICALLY POWERED EQUIPMENT

- Disconnect power source or disconnect the switch at the fuse box before working on any equipment
- Only install equipment using the US National Electrical Code, all local codes, and the manufacturer's recommendations
- Ground the equipment in accordance with the US National Electrical Code

Installation & Set Up

Set Up

1. Feed shoulder strap through strap holders on both ends of the top of the welder.
2. Connect the ground clamp cable quick connect (black) to the negative (-) connection on the front of the welder.
3. Connect the electrode cable quick connect (red) to the positive (+) connection on the front of the welder.

Operation

1. With the Power Level knob in the off position, plug the welder into a 110 volt outlet.
2. Attach the ground clamp to the work piece to insure the circuit is completed.
3. Insert the electrode into the electrode holder by squeezing the jaw open and placing the bar end of the electrode into the holder.
4. Turn the power level knob to the appropriate setting (see chart below). for the electrode being used.
5. With face shield and eye protection in place begin welding.
6. After completing the job, turn the power level knob to the off position and unplug the welder.

Electrode Diameter	Minimum Current	Average Current	Maximum Current
1/16"	30A	40A	50A
3/32"	70A	80A	95A

Note: The ARC100 will weld with 1/8" 6013 or softer filler rod.

Maintenance

Regular preventative maintenance is not required for the ARC100. This welder has no user serviceable parts. Please contact KDAR Company for necessary repairs.

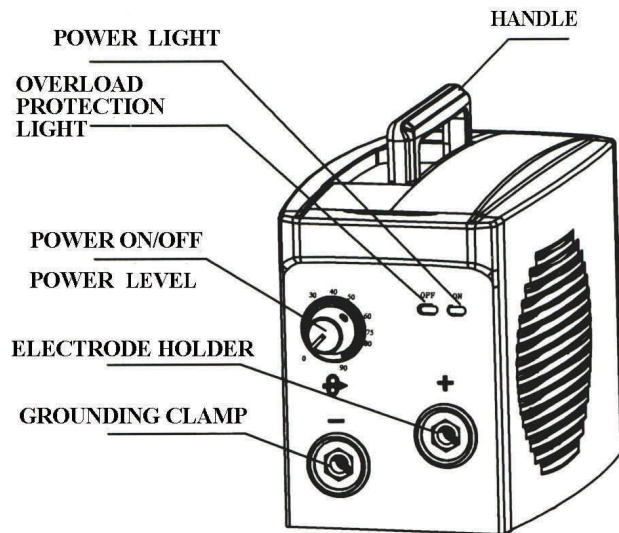
Installation & Set Up

Specifications

Input Voltage	110V, 50-60Hz
Input Amps	17.6
No Load Voltage	48
Output Amps	10-90
Duty Cycle	35% @ 75 Amps 60% @ 65 Amps 100% @ 50 Amps
Weight	5.5 Lbs
Dimensions	10.25" x 4.125" x 5.9"

Package Contents

1. Welder Assembly
2. Electrode Holder & Cable Assembly
3. Ground Clamp & Cable Assembly
4. Shoulder Strap
5. Chipping Hammer with Brush
6. Face Shield
7. Operators Manual



ARC RAYS CAN BURN SKIN AND EYES

- Arc rays when welding produce intense ultraviolet and infrared rays that can burn skin and eyes
- Wear face protection, either helmet or shield when operating with ANSI Z49.1 approved shade #10 minimum recommended with higher shades for higher amperage used and larger electrodes. The lens should conform to ANSI Z87.1 standards for testing.
- Wear approved safety glasses with side shields under the face protection
- Warn others not to stare at the arc as it can cause damage to the eyes. Provide barriers to protect other workers in the area from the arc while operating
- Wear flame resistant gloves, clothing, and shoes when operating



FUMES AND GASES CAN BE HAZARDOUS

- Arc Welding produces fumes and gases and breathing these gases is hazardous to your health
- Keep your head out of the fumes and do not breathe the fumes while welding
- Work only in a confined area if it has sufficient ventilation, or while wearing an air supplied respirator. Fumes from welding deplete the oxygen supply and can be harmful. Always be sure there is ample breathing air
- Read the MSDS sheets and the instructions from manufacturers for electrodes and metals to be welded
- Do not use the welder near hydrocarbon vapors coming from degreasing, cleaning, or spraying operations. The heat and rays can react with solvent vapors to create the gas phosgene, a very toxic gas and other irritating gases
- Do not weld coated metals, such as galvanized, lead, or cadmium plated steel. Before welding, all plating must be removed. The area must be well ventilated or an air supplied hood must be used. The coatings and chemicals when burned cause highly irritating and toxic fumes.
- Do not weld containers with toxic, flammable, or reactive elements stored in them. They must be emptied and properly prepared before welding. They must be cleaned and prepared to weld by the AWS F4.1 guidelines for welding containers or tubes



WELDING SPARKS CAN CAUSE INJURY, FIRE, OR EXPLOSION

- Remove all flammable materials from the welding area
- Always have a charged fire extinguisher available in the welding area
- When not welding make sure the electrode is not grounded, this causes a heat build up and possible fire
- Avoid welding near hydraulic lines, fuel lines, electrical cords, air hoses
- Sparks and hot metal fly out from the arc when welding, wear approved safety glasses with side shields under approved helmets, wear proper body and hand protection, and wear flame resistant ear plugs to keep sparks from entering the ears



CYLINDERS CAN EXPLODE IF DAMAGED

- Gas cylinders contain gas under very high pressure. If damaged they can result in that cylinder exploding. Gas cylinders are a major part of metalworking and must be treated with care.
- Protect gas cylinders from excessive heat, mechanical shocks, slag, open flames, sparks, and arcs
- Always keep cylinders in an upright position securely fastened to a fixed support
- Valve protection caps should always be in place and hand tight except when the cylinder is in use
- Keep all cylinders away from any welding or electrical circuits
- Never allow the arc from a welder to contact a cylinder
- Never weld any type of pressurized cylinder, an explosion could result
- Always turn your face away from the valve when opening the cylinder
- Read and follow all instructions on compressed gas cylinders, associated equipment, and CGA publication P-1 listed in the Safety Standards before using



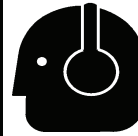
HOT PARTS CAN CAUSE SERIOUS BURNS

- Do not touch hot parts without wearing protection.
- Allow the parts to cool sufficiently before working with parts that could potentially be hot.



ELECTRIC AND MAGNETIC FIELDS MAY BE DANGEROUS

- Electric current used in welding creates Electric and Magnetic Fields (EMF)
- Magnetic fields can affect pacemakers and wearers should avoid proximity to EMF. Wearers need to contact their doctors before operating this type of equipment
- Exposure to EMF during operation of this equipment may have other health effects which are not yet known
- Route the ground and electrode cables together and not around your body
- Do not place your body between the electrode cable and the ground cable. They both need to be on the same side of your body when operating
- Do not work next to the welding machine



NOISE CAN DAMAGE HEARING

- Prolonged noise exposure from cutting and welding equipment can cause damage if levels of noise exceed the OSHA standards
- Wear approved hearing protectors
- Warn other workers nearby of the high noise level and hazard

CALIFORNIA PROPOSITION 65 WARNINGS

- Welding or cutting equipment produces fumes or gases which contain chemicals known to the State of California to cause birth defects, and in some cases, cancer. (California Health and Safety Code Section 25249.5 et seq.)

PRINCIPAL SAFETY STANDARDS

AMERICAN WELDING SOCIETY

- AWS C5.2, Recommended Practices for Plasma Arc Cutting
- AWS F4.1, Recommended Safe Practices for the Preparation for Welding and Cutting

OSHA STANDARDS

- OSHA 29 CFR 1910, Safety and Health Standards

NATIONAL FIRE PROTECTION ASSOCIATION

- NFPA Standard 70, National Electric Code
- NFPA Standard 51B, Cutting and Welding Processes

AMERICAN NATIONAL STANDARDS INSTITUTE

- ANSI Standard Z87.1, Safe practices for Occupation and Educational Eye and Face Protection
- ANSI Standard Z49.1, Safety in Welding and Cutting