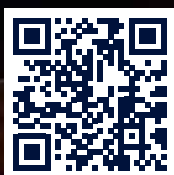


Welders...  
Positioners...  
Generators...  
Specialty Equipment.



# Red-D-Arc Welderrentals

When you're ready to weld.

Red-D-Arc **Welderrentals** offers a full range of rental welding and positioning equipment for a variety of processes and applications.

Our rental products have been engineered and built to provide **Extreme-Duty™** performance and reliability in even the harshest environments, and are available through over 50 Red-D-Arc Rental Centers, strategically located throughout the United States, Canada, and Mexico - as well as locations in the United Kingdom, the Netherlands, France and the United Arab Emirates. We also have dealer representation in the Caribbean, Australia, Spain, Kazakhstan, Qatar and Saudi Arabia.

From our rental fleet of over 50,000 welders and positioners, we can supply you with the equipment you need - where you need it, when you need it - anywhere in the world.

## Available Services

- **Welding and Positioning Equipment Rentals**  
A comprehensive product offering of cost effective, innovative solutions to your equipment needs
- **Welder-Logistics™ Extended Term Rental Programs**  
36 month rental programs with additional features and benefits
- **RDA-Tool-Crib™**  
A cost effective alternative to equipment ownership for your complete fleet requirements
- **Service-Advantage-Plus™**  
On-site equipment set-up, service and maintenance for specialized equipment and applications
- **Quality-Checked™ Welding Equipment**  
Red-D-Arc carries an excellent selection of pre-owned welding equipment, generators and positioning equipment for sale. Each piece is tested, calibrated, and rated as Quality-Checked or Select and comes with a warranty

## Welding and Cutting Processes

In addition to helping you with equipment selection, Red-D-Arc can assist you in choosing the best process for each welding and cutting application. We can supply and service equipment for the following manual and automatic welding and cutting processes:

- Stick (SMAW) welding
- MIG (GMAW) welding
- Pulsed MIG (GMAW-P) welding
- Self-shielded flux-cored (FCAW-SS) welding
- Gas-shielded flux-cored (FCAW-GS) welding
- Submerged arc (SAW) welding
- TIG (GTAW) welding and pulsed TIG (GTAW-P) welding
- Air carbon arc cutting and gouging (CAC-A)
- Plasma (PAC) cutting and gouging

**Welderrentals™**  
**Positionerrentals™**  
**WelderLogistics™**  
extended term rental programs



**Service  
Advantage™  
Plus**  
**Quality-Checked™**  
PRE-OWNED  
**Equipment**

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### RENTAL CENTERS

#### United States

Appleton	1901 Badger Road, Kaukauna, Wisconsin 54130-1185	(920) 759-4700
Atlanta	685 Lee Industrial Blvd., Austell, Georgia 30168-7434	(770) 819-0505
Atlanta Corporate	7060 Mableton Parkway South East, Mableton, Georgia 30126-4617	(678) 460-0120
Baltimore	3403 Sinclair Lane, Baltimore, Maryland 21213-2030	(410) 342-9440
Baton Rouge	18180 Swamp Road, Prairieville, Louisiana 70769-3312	(225) 677-7676
Beaumont	4920 Ward Street, Beaumont, Texas 77705-4403	(409) 434-0800
Birmingham	101 Pardue Road, Pelham, Alabama 35124-2169	(205) 664-3969
Boston	1 Polito Drive, Shrewsbury, Massachusetts 01545-4653	(508) 757-1464
Charlotte	5324 North Graham Street, Charlotte, North Carolina 28269-4833	(704) 596-9430
Chicago	6900 West 63rd Street, Chicago, Illinois 60638-3916	(773) 586-2600
Corpus Christi	1819 N. Padre Island Drive, Corpus Christi, Texas 78408-2331	(361) 289-8866
Dallas	430 South Riverfront Blvd., Dallas, Texas 75207-7502	(214) 742-9400
Denver	4675 Joliet Street, Denver, Colorado 80239-2921	(303) 373-1847
Detroit	38098 Van Born Road, Wayne, Michigan 48184-1577	(734) 641-2870
Houston	1817 Federal Road, Houston, Texas 77015-6709	(713) 451-8484
Jacksonville	10310 Alta Drive, Jacksonville, Florida 32226-2300	(904) 379-8194
Lake Charles	1374 Swisco Road, Sulphur, Louisiana 70665-8202	(337) 533-8022
Las Vegas	2620 South Highland Drive, Las Vegas, Nevada 89109-1116	(702) 732-9141
Lexington	1668 Jaggie Fox Way, Lexington, Kentucky 40511-1082	(859) 259-2828
Los Angeles	1945 East 223rd Street, Carson, California 90810-1608	(310) 233-3327
Memphis	7340 Craft Goodman Road, Olive Branch, Mississippi 38654-1300	(662) 890-1188
Minneapolis	1300 Larc Industrial Blvd., Burnsville, Minnesota 55337-1412	(952) 736-3568
Mobile	6065B Rangeline Road, Theodore, Alabama 36582-5204	(251) 443-8884
New Jersey	1513 South Washington Avenue, Piscataway, New Jersey 08854-3815	(732) 926-8868
Norfolk	1052 Portsmouth Blvd., Suffolk, Virginia 23434-2222	(757) 539-2104
Oakland	635 Gilman Street, Berkeley, California 94710-1330	(510) 527-9413
Phoenix	544 West Iron Avenue, Suite 101, Mesa, Arizona 85210-6032	(480) 844-3625
Pittsburgh	2150 Roswell Drive, Pittsburgh, Pennsylvania 15205-1833	(732) 926-8868
Portland	7315 North East 43rd Avenue, Vancouver, Washington 98661-1313	(360) 546-0931
Sacramento	1725 69th Street, Sacramento, California 95819-4601	(916) 732-2197
San Diego	9070 Clairemont Mesa Blvd., San Diego, California 92123-1208	(858) 268-4585
Seattle	11020 East Marginal Way South, Tukwila, Washington 98168-1935	(206) 763-2072
Saint Louis	2430 Salena Street, Saint Louis, Missouri 63104-2819	(314) 631-8490
Tampa	2210 Peerless Road, Mulberry, Florida 33860-4448	(863) 425-8820
Tulsa	61 North Peoria Avenue, Tulsa, Oklahoma 74120-1622	(918) 587-8686

#### Canada

Arthur	10 Wells Street, Box 790, Arthur, Ontario N0G 1A0	(519) 848-9353
Edmonton	6 Challenger Crescent, Sherwood Park, Alberta T8H 2R1	(780) 417-0330
Fort McMurray	380 Taiganova Crescent, Bay 7, Fort McMurray, Alberta T9K 0T4	(780) 791-2108
Grimsby Corporate	667 South Service Road, PO Box 40, Grimsby, Ontario L3M 4G1	(905) 643-4212
Lac Saint-Jean	675 Rue des Actionnaires, Chicoutimi, Quebec G7J 5B2	(418) 698-8686
Moncton	175 Barker Street, Moncton, New Brunswick E1C 9T8	(506) 852-4081
Montreal	2181 Nobel, Ste-Julie, Quebec J3E 1Z9	(450) 649-6464
Nanaimo	950 Old Victoria Road, Unit 3, Nanaimo, British Columbia V9R 6Z8	(250) 754-8444
Ontario Rental Centre	667 South Service Road, PO Box 131 STN MAIN, Grimsby, Ontario L3M 4G1	(905) 643-7877
Vancouver	7423 Wilson Avenue, Delta, British Columbia V4G 1E5	(604) 946-4667

United States and Canada toll free number

1-866-733-3272

#### Mexico

Veracruz	Calle Acacias, esquina Avenida de las Torres, Lotes 21 y 22 de la Manzana 7 Zona Industrial Bruno Pagliai, 91697 Veracruz, VER	(229) 981-2900
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### Welding Equipment...

- GASOLINE ENGINE-DRIVEN WELDERS
- PROPANE ENGINE-DRIVEN WELDERS
- DIESEL ENGINE-DRIVEN WELDERS
- STICK WELDERS AND PAKS
- MULTIPROCESS POWER SOURCES AND PAKS
- ADVANCED PROCESS WELDERS
- MULTIOPERATOR DC CONVERTERS
- MIG PACKAGES
- SEMI-AUTOMATIC WIREFEEDERS
- SPOOLGUNS
- WIREFEEDER/WELDERS
- AUTOMATIC WIREFEEDERS
- TIG WELDERS
- STUD WELDERS
- WELDING ACCESSORIES



### GASOLINE ENGINE-DRIVEN WELDERS

#### GX200 2+4 Welder Generator

DC CC 4kW



**Fuel Efficient**  
**Low Noise Level**  
**4,000 Watt AC Generator**  
**Available with Electric Start**  
**11HP GX340 Honda Gasoline Engine**

Exceptionally smooth output from the brushless, asynchronous alternator provides excellent welding arc characteristics and arc striking voltage. Lightweight and portable with auxiliary power available, even while welding.

#### Specifications

DC Amperage Range: 40 - 200 A  
Rated Output: 200 A at 23 VDC, 35% duty cycle  
170 A at 23 VDC, 60% duty cycle  
Auxiliary Power: 4,000 watts, 60 Hz, 100% duty cycle on 240 VAC  
2,000 watts, 60 Hz, 100% duty cycle on 120 VAC  
Weight: 219 lb (99.3 kg) pull start, 230 lb (104.3 kg) with electric start  
Dimensions: H: 20.0" (508 mm) W: 19.25" (489 mm) L: 30.5" (775 mm)

#### Options

Shop-type undercarriage

#### Ranger 225

DC CC CV 10.5kW



**210 amps DC CC Output at 100% Duty Cycle**  
**200 amps CV Output at 100% Duty Cycle**  
**23 HP Kohler OHV Command CH23S Air-Cooled Gasoline Engine**  
**Smooth Stick Welding (MIG, Flux-Cored and TIG with optional equipment)**  
**10,500 Watts Peak (9,000 Watts Continuous) 120/240 Volt AC Auxiliary Power**

The Ranger 225 does a variety of basic welding jobs, with auxiliary power to run lights, grinders, inverters and plasma cutters (with separate air supply), and for emergency power. The totally enclosed case fully protects the engine. Runs quietly with a 76.4 dBA sound level at 23' (7 m).

#### Specifications

DC Amperage Range: 50 - 225 amps, 4 position output range selector  
DC Voltage Range: 15 - 25 volts  
CC Rated Output: 225 A at 25 VDC, 40% duty cycle  
210 A at 25 VDC, 100% duty cycle  
CV Rated Output: 200 A at 20 VDC, 100% duty cycle  
Max OCV at 3700 RPM: 80 V<sub>RMS</sub>  
Auxiliary Power: 10,500 watts peak (9,000 watts continuous),  
60 or 50/60 Hz, 100% duty cycle 120/240 VAC  
(AC auxiliary power is reduced when welding simultaneously)  
Weight: 514 lb (233 kg)  
Dimensions: H: 29.9" (759 mm) W: 21.5" (546 mm) L: 42.3" (1073 mm)

#### Options

Shop-type undercarriage, construction trailer, Red-D-Arc LN25 wirefeeder







### DIESEL ENGINE-DRIVEN WELDERS

#### DX450 Welder

DC CC CV 19kW



Optional Sidewinder dual-operator version shown

CC Stick (up to 1/4"), Downhill Pipe (Stick), Touch-Start DC TIG, CV Wire (up to 3/32") and Arc Gouging (up to 5/16" carbon rods)  
**Kubota V2403M EPA Tier 4i, liquid-cooled, four-cylinder Diesel Engine**  
**19,000 Watts Peak (17,000 Watts Continuous) 60 Hz, 240 Volt, Three-Phase AC Auxiliary Power**  
**12,000 Watts Peak (11,000 Watts Continuous) 60 Hz, 120/240 Volt, Single-Phase AC Auxiliary Power**

One of the most compact, and quietest 450 Amp engine-driven welders available on the market. Chopper Technology delivers superior welding-arc performance in all welding modes. VRD (Voltage Reduction Device) reduces the OCV in CC Stick mode for added safety. With the optional Sidewinder Package, the DX450 can function as a dual-operator welder delivering efficiency, functionality and economy.

#### Specifications

Rated Output: 400 A at 36 Volt, 100% duty cycle  
 450 A at 32 Volt, 100% duty cycle  
 Output Range: 30-500 A DC, 40-300 A Pipe, 20-250 A DC TIG, 14-36 V CV, 90-450 A Gouge  
 Auxiliary Power: 19 kW Peak/17 kW Continuous, 240 V, Three-Phase AC  
 12 kW Peak/11 kW Continuous, 120/240 V, Single-Phase AC  
 Weight: 1245 lb (565 kg) Fuel Capacity: 20 gallons (75 L)  
 Dimensions: H: 35.9" (913 mm) W: 25.3" (643 mm) L: 60.0" (1524 mm)

#### Options

Construction trailer, remote control, various power-sources and plasma cutters, LN25 and LN25 PRO wirefeeders, various spool guns

#### D503K 5+3HO Welder

DC CC 3kW



LN25 Wirefeeder for use with optional CV Wirefeed Module

**Full Range Amperage Control and Job Selector (OCV) Control**  
**New High Output Generator and Engine**  
**Fuel Efficient V3300EBG Kubota Diesel Engine**  
**3,000 Watts Auxiliary Power**

New High Output version of the tried and true D500K delivers up to 600 amps for the most demanding applications. The pure DC generator provides excellent stick welding characteristics with lots of power for larger diameter electrodes and air carbon arc gouging.

#### Specifications

DC Amperage Range: 40 - 600 A Maximum OCV: 98  
 Rated Output: 520 A at 36 VDC, 60% duty cycle  
 400 A at 40 VDC, 100% duty cycle  
 Auxiliary Power: 3,000 watts, 60 Hz, 15 amps with circuit breaker  
 Weight: 2038 lb (924.4 kg) Fuel Capacity: 15 gallons (57 L)  
 Fuel Consumption: 1.8 GPH (6.81 LPH) at rated load  
 H: 44.25" (1124 mm) W: 27.0" (686 mm) L: 73.5" (1867 mm)

#### Options

CV Wirefeed Module and LN25 wirefeeder for CV MIG welding processes, K930-2 TIG module for TIG welding, construction trailer, remote control for stick welding



### DIESEL ENGINE-DRIVEN WELDERS

#### D550K HO Welder

DC CC CV 20kW



**Stick, MIG, DC TIG, Flux-Cored Welding and Air Carbon Arc Gouging  
Built to Red-D-Arc Extreme-Duty Specifications  
Kubota V3300-B 49 HP Liquid-Cooled Diesel Engine  
Up to 20,000 Watts of Three-Phase 240 VAC Auxiliary Power**

The three-phase rotating field generator produces a smooth DC weld output and has enough power for gouging with up to 3/8" carbons. A simplified control panel with a five position range switch and a fine control potentiometer provides easy process set-up.

#### Specifications

DC Amperage Range: 20 - 600 A      Maximum OCV: 95 CC/56 CV  
Rated CC/CV Output: 500 A at 40 VDC, 100% duty cycle  
600 A at 44 VDC, 40% duty cycle

DC Voltage Range: 14 - 40 V

Available Auxiliary Power While Welding:

5,500 watts Peak, 4,000 watts Continuous, 33.3/16.6 A, 120/240 VAC

Additional Available Auxiliary Power While Not Welding:

Single-Phase: 12,000 watts, 50 A, 120/240 VAC, 60 Hz; or

Three-Phase: 20,000 watts, 48 A, 240 VAC, 60 Hz

Fuel Capacity: 25 gallons (95 L)

Weight: 1808 lb (820 kg)

H: 50.0" (1270 mm) W: 30.75" (781 mm) L: 69.5" (1765 mm)

#### Options

Construction trailer, remote control for stick welding

#### D550K TIG Welder

AC DC CC CV 20kW



**Our D550K HO with an added AC output kit  
Allows for portable heavy aluminum AC TIG welding in the field  
Add High Frequency Unit and Water Cooler Unit if required  
Up to 20,000 Watts of Three-Phase 240 VAC Auxiliary Power**

All the features of our D550K HO with the added ability of heavy aluminum AC TIG welding in the field.

#### Specifications

DC Amperage Range: 20 - 600 A      Maximum OCV: 95 CC/56 CV  
Rated CC/CV Output: 500 A at 40 VDC, 100% duty cycle  
600 A at 44 VDC, 40% duty cycle

DC Voltage Range: 14 - 40 V

AC Amperage Range: 20 - 400 A      Maximum OCV: 65 CC

Rated CC Output: 300 A at 32 VAC, 100% duty cycle

335 A at 33 VAC, 60% duty cycle

375 A at 35 VAC, 40% duty cycle

Auxiliary Power Output: same as on the D550K HO, listed above

Fuel Capacity: 25 gallons (95 L)

Weight: 1813 lb (822.4 kg)

H: 50.0" (1270 mm) W: 30.75" (781 mm) L: 69.5" (1765 mm)

#### Options

High frequency unit, water cooler unit, construction trailer, remote control for stick welding

### DIESEL ENGINE-DRIVEN WELDERS

#### AIRPAK 600 Welder

AC DC CC CV 20kW



**Multiprocess Welder, Generator, and Air Compressor in one package**  
**Unit includes Battery Charger and Jump Starter**  
 DC Stick, AC Stick, MIG, Flux Cored, DC TIG, AC TIG, Submerged Arc  
 Air Carbon Arc Gouging with 1/2" (12.7 mm) Carbons  
 Air Plasma Cutting (with optional equipment)  
 Ingersoll-Rand CE55 G1 Compressor produces 100 PSI at 60 CFM at run speed

One machine that will do it all. Designed and built to be the most reliable high-output system in the world. Runs on a 63.4 HP Deutz TD2011L04w, EPA Tier 4i compliant, turbocharged, direct-injected, liquid-cooled diesel engine. And the unit runs quietly at a maximum of 78.0 dBA at 23' (107.3 Lwa at 7 m) while running at maximum output, with the compressor on.

#### Specifications

Output Range: DC Stick 45-750 A, AC Stick 35-575 A, MIG/FCAW 14-40 V,  
 DC TIG 20-450 A, AC TIG 20-375 A, Charger 12/24 V, 50-750 A  
 Auxiliary Power while welding: 5,500 watts peak, 4,000 watts continuous  
 34/17 A, 120/240 VAC 60 Hz  
 Auxiliary Power while not welding: 20,000 watts 3-phase, 48 A, 240 VAC  
 12,000 watts 1-phase, 50 A, 120/240 VAC  
 Weight: 1956 lb (887.2 kg) Fuel Capacity: 25 gallons (95 L)  
 Dimensions: H: 43.0" (1092 mm) W: 28.5" (724 mm) L: 69.5" (1765 mm)

#### Options

Remote control, highway trailer, various plasma machines for PAC, wirefeeders and spool guns

#### Mariner 5+3 Welder with Offshore Protection Package

DC CC 3kW



**Extreme-Duty Protective Enclosure**  
**Excellent Welding Characteristics**  
**Fuel Efficient Kubota Diesel Engine**  
**3,000 Watts Auxiliary Power**

The ultimate offshore and environmental package for stick welding up to 1/4" diameter electrodes and air carbon arc gouging with up to 5/16" carbons. The protective enclosure minimizes salt water intrusion and is coated with a special three-coat paint to reduce corrosion. With a built-in drip pan/reservoir, all engine fluids are contained in the event of an oil or coolant leak. A lifetime pre-fuel separator protects the engine from fuel-borne contaminants, and the engine is protected from hydrocarbon over-running or explosion with an automatic over-run shut down device. Integral fork lift slots and lifting bale are included for safe transportation.

#### Specifications

DC Amperage Range: 50 - 575 A Maximum OCV: 97  
 Rated Output: 400 A at 36 VDC, 60% duty cycle  
 350 A at 34 VDC, 100% duty cycle  
 Auxiliary Power: 3,000 watts, 60 Hz, 15 amps with circuit breaker  
 Weight: 2480 lb (1125 kg) Fuel Capacity: 32 gallons (121 L)  
 Fuel Consumption: 1.79 GPH (6.78 LPH) at rated load  
 H: 58.0" (1471 mm) W: 31.0" (787 mm) L: 87.0" (2210 mm)

### STICK WELDERS AND PAKS

#### ES275i Inverter Welder

DC CC



#### Processes

Stick, DC TIG with Touch-Start

#### Configurations

Available as individual welders and 4Pak or 8Pak Multioperator welding systems. 4Paks include either insulated bases or carts with casters. 8Paks include bases with optional, add-on casters.

#### Description

275 amp at 35% duty cycle, constant current, DC, inverter welder with both single-phase and three-phase, 50/60 Hz input

#### Input Voltages

Individual Welders:

208/230/460/575/1/3/60

220/380/400/415/440/1/3/50

4Pak and 8Pak Multioperator:

460/575/3/60

#### Features

- Outstanding E6010 and E7018 performance using up to 7/32" diameter electrodes that enables both whip or drag techniques for a variety of applications
- Touch-Start TIG allows DC TIG welding without high frequency starting
- Adjustable Arc Force and two-position Hot Start switch for enhanced arc control
- Potentiometer-type remote control
- Light-weight and compact design
- No output derating when operated on single-phase power
- Meets IP23S environmental rating
- Extreme-Duty environmental protection
- Manufactured under ISO 9001 certification
- 4Pak and 8Pak are small enough to fit through a 36" wide pedestrian door
- Tweco style output terminals
- 10' long, 8 AWG input cord for all 3 phase voltages
- Optional Primary Ground Protector available for 4Pak and 8Pak

#### Operation

- Stick and TIG Weld Modes
- Output Control controls the output current over the entire output range and can be adjusted under load. When using remote control this function becomes the limit setting
- Arc Force is only active in Stick weld mode
- Hot Start is only active in Stick weld mode and is fixed at 160% of the set current or 275 amps whichever is larger then quickly reverts to the set current in 0.4 seconds
- Voltage reconnect is via a side panel access door
- Remote Control is via a 3-pin MS-style receptacle

#### ES275i 4Pak Multioperator System



4Pak mounts on either an insulated base or a cart with casters for easy moving

(continued on next page)

### STICK WELDERS AND PAKS

#### ES275i 8Pak Multioperator System



Shown with optional casters

#### Weights and Dimensions

##### ES275i

Weight: 54.5 lb (24.7 kg)  
H: 13.6" (345 mm) W: 9.0" (229 mm) D: 20.25" (514 mm)

##### ES275i 4Pak

(on cart with casters)  
Weight: 480 lb (217.7 kg)  
H: 44.5" (1130 mm) W: 31.0" (787 mm) D: 35.75" (908 mm)

##### ES275i 8Pak

(on insulated base with casters)  
Weight: 987 lb (447.7 kg)  
H: 46.75" (1187 mm) W: 60.0" (1524 mm) D: 27.5" (699 mm)

#### Specifications (Individual Welders)

Input Power	Rated Output	Input Current at Rated Output	Output Range
208/230/460/575/3/60	275 amps, 31 volts, 35% 250 amps, 30 volts, 60% 200 amps, 28 volts, 100%	38/37/19/16 34/33/17/14 27/25/13/11	5 - 275 amps DC
208/230/460/575/1/60	275 amps, 29-31 volts, 35% 250 amps, 30 volts, 60% 200 amps, 28 volts, 100%	68/67/38/31 63/62/33/27 49/48/26/21	
220/380/400/415/440/3/50	250 amps, 30 volts, 35% 200 amps, 28 volts, 100%	32/20/19/18/17 25/15/15/14/13	5 - 250 amps DC
220/380/400/415/440/1/50	250 amps, 30 volts, 35% 200 amps, 28 volts, 100%	63/42/40/38/36 48/32/30/29/27	



### STICK WELDERS AND PAKS

#### E500 Extreme-Duty Welder

DC CC 2kW



230/460/575 Volt, 60 Hz, 3 Phase Input

**Rugged Tubular Pak-Lok-Frame**  
**Available as 4Pak and 6Pak Multioperator Systems**  
**Built to Red-D-Arc Extreme-Duty Specifications**  
**Arc Force, Remote Control, Continuous Current Control**

The choice for industrial applications offering a smooth, consistent arc and enough amperage for air carbon arc gouging with up to 3/8" diameter carbons. Ideal arc characteristics for critical welding such as low hydrogen and stainless steel electrodes. Superior all-position stability makes code quality welds and clear x-rays easier to attain.

**Specifications**

DC Amperage Range: 75 - 625 A      Maximum OCV: 67  
 Rated Output: 500 A at 40 VDC, 60% duty cycle  
 Three-Phase Rated Input Current:  
     93 at 230 VAC, 46.5 at 460 VAC, 37.2 at 575 VAC  
 Weight (including frame): 566 lb (256.7 kg)  
 H: 32.0" (813 mm)    W: 27.75" (705 mm)    L: 34.25" (870 mm)

**Options**

Three-wheeled shop-type undercarriage (shown), LN25 wirefeeder, K930-1 TIG module for high quality DC TIG welding, 2kW 120 VAC duplex auxiliary power receptacle, remote control

#### E500 4Pak, 6Pak Multioperator Systems

DC CC 8kW



E500 4Pak

**Modular Pak Construction**  
**DP120 Power Distribution Panel Included**  
**For High Amperage Stick Welding and Air Carbon Arc Gouging**

All the benefits of a Multioperator Pak System with up to 625 amps DC from each module. Each module has its own arc force control, potentiometer-type continuous output control and remote control receptacle. Built to Red-D-Arc Extreme-Duty Specifications for dependable operation in even the most severe conditions. Operates with either 460 VAC or 575 VAC three-phase electrical input. Can be configured as either a 4Pak or 6Pak Multioperator System.

**Individual Module Specifications**

DC Amperage Range: 75 - 625 A      Maximum OCV: 67  
 Rated Output: 500 A at 40 VDC, 60% duty cycle

**4Pak Specifications**

Weight: 2498 lb (1133.1 kg)  
 H: 76.0" (1930 mm)  
 W: 57.0" (1448 mm)  
 D: 43.5" (1105 mm)

**6Pak Specifications**

Weight: 3694 lb (1675.6 kg)  
 H: 76.0" (1930 mm)  
 W: 84.0" (2134 mm)  
 D: 43.5" (1105 mm)

**Options**

LN25 wirefeeders, 2kW 120 VAC duplex auxiliary receptacles, remote control, common work connector

### MULTIPROCESS POWER SOURCES AND PAKS

#### E300 3+2 Extreme-Duty Welder

DC CC CV 2kW



460/575 Volt, 60 Hz, 3 Phase Input

#### 2,000 Watts AC Auxiliary Power

Available as 4Pak and 6Pak Multioperator Systems

Built to Red-D-Arc Extreme-Duty Specifications

Arc Force, Hot Start, Remote Control, Continuous Output Control

Outstanding arc characteristics on both constant current and constant voltage processes in a rugged, compact design. Includes MS-style connections for 115V wirefeeders and 3-pin remote controls.

#### Specifications

DC Amperage Range: 20 A at 20 V - 350 A at 34 V Maximum OCV: 70

Rated CC Output: 350 A at 34 VDC, 20% duty cycle

250 A at 30 VDC, 60% duty cycle

180 A at 27.5 VDC, 100% duty cycle

DC Voltage Range: 15 - 45 V

Three-Phase Rated Input Current at 250 A, 30 VDC, 60% duty cycle:

21.5 amps at 480 volts, 17 amps at 600 volts

Weight (including frame): 322 lb (146.1 kg)

H: 22.375" (568 mm) W: 21.25" (540 mm) L: 31.5" (800 mm)

#### Options

Three-wheeled shop-type undercarriage (shown),  
115 VAC constant speed wirefeeders and spool guns,  
LN25 wirefeeder, remote control

#### E300 3+2 4Pak, 6Pak Multioperator Systems

DC CC CV



#### Built to Red-D-Arc Extreme-Duty Specifications

2,000 Watts, 115 VAC Auxiliary Power per Module

Arc Force, Hot Start, Remote Control, Continuous Current Control

The highly efficient design of the E300 3+2 permits the 4Pak version to be operated with a 60 amp service and the 6Pak version from a 100 amp service with either 460V or 575V 3 phase power.

With up to 350 amps of DC welding current, full welding output controls, 115 VAC auxiliary power for tools, compact size, and multi-process capability, these Paks are the ideal choice for multiple operator use.

#### Individual Module Specifications

DC Amperage Range: 20 A at 20 V - 350 A at 34 V

Rated CC Output: 350 A at 34 VDC, 20% duty cycle

250 A at 30 VDC, 60% duty cycle

DC Voltage Range: 15 - 45 V

Maximum OCV: 70

#### 4Pak Specifications

Weight: 1402 lb (635.9 kg)

H: 54.5" (1384 mm)

W: 44.5" (1130 mm)

D: 32.0" (813 mm)

#### 6Pak Specifications

Weight: 2168 lb (983.4 kg)

H: 76.5" (1943 mm)

W: 44.5" (1130 mm)

D: 32.0" (813 mm)

#### Options

LN25 wirefeeder, remote control





### MULTIPROCESS POWER SOURCES AND PAKS

#### EXtreme360 Inverter Welder

DC CC CV



**Stick, MIG, TIG, Flux-Cored Welding Processes**  
**Pulsed MIG Capabilities with optional Optima Control**  
**Built to Red-D-Arc Extreme-Duty Specifications**  
**Available as 4Pak and 8Pak Multioperator Systems**

#### Description

350 amp at 60% duty cycle, constant current/constant voltage, DC inverter welder. Standard features include Auto-Line, Ammeter and Voltmeter, adjustable Arc Control, full Remote Control capability and Extreme-Duty construction.

#### Voltage Input

Individual Units: Auto-Line Power Management Technology allows for operation with any type of primary power from 208 to 575 VAC, single- or three-phase, 50 or 60 hertz with no manual linking required - ideal for dirty or unreliable power. 4Pak and 8Pak Multioperator units include DP120 panels and operate with 460/575/3/60 input power.

#### Features

Wind Tunnel Technology protects electrical components and PC boards from contamination. Fan-On-Demand cooling system operates only when needed, reducing noise, energy use and amount of contaminants pulled through the machine. Lift-Arc allows TIG starting without the use of high-frequency. Starts the arc without contaminating the weld with tungsten. Adaptive Hot Start increases the output amperage at the start of the weld if necessary, eliminating electrode sticking. Inverter arc control provides greater puddle control for superior electrode performance. Line voltage compensation keeps power constant even if power input varies by  $\pm 10\%$  on 575 volt power and  $+37\%/-59\%$  on 460 volt power. Process selector switch reduces the number of control setup combinations without reducing any features. Large, dual digital meters are easy to view and presettable to ease setting weld output. Pulsed MIG capabilities with optional Optima control reduces spatter and distortion, allows better out-of-position puddle control, and provides potential reduction of fume particle emission. Lightweight, aerospace-grade aluminum case offers protection with the benefit of reduced weight. Optional 115 VAC auxiliary power is available.

#### EXtreme360 4Pak, 8Pak Multioperator Systems



Input Power	Rated Output at 60% Duty Cycle	Voltage Range in CV Mode	Amperage Range in CC Mode	Max. Open-Circuit Voltage
Three-Phase	350 A at 34 VDC	10 - 38 V	5 - 425 A	75 VDC
Single-Phase	300 A at 32 VDC	10 - 38 V	5 - 425 A	75 VDC

#### EXtreme360 4Pak and 8Pak Multioperator Systems

These Paks are easily maneuvered around most jobsites when mounted on the optional wheel kit. Excellent stick welding performance with up to 425 DC amps per arc combined with the features of a high-end MIG machine make this a very versatile system.

#### EXtreme360 Specifications

Weight: 80 lb (36.3 kg)  
 H: 17.0" (432 mm)  
 W: 12.5" (318 mm)  
 D: 24.0" (610 mm)  
 Input Power: 208-575/1/3/50/60

#### 4Pak Specifications

Weight: 700 lb (320 kg)  
 H: 54.5" (1384 mm)  
 W: 31.5" (800 mm)  
 D: 32.0" (813 mm)  
 Input Power: 460/575/3/50/60

#### 8Pak Specifications

Weight: 1400 lb (640 kg)  
 H: 54.5" (1384 mm)  
 W: 63.0" (1600 mm)  
 D: 32.0" (813 mm)  
 Input Power: 460/575/3/50/60



### MULTIPROCESS POWER SOURCES AND PAKS

#### DC400 Extreme-Duty Welder

DC CC CV 2kW



230/460/575 Volt, 60 Hz, 3 Phase Input

#### Rugged Tubular Pak-Lok-Frame

#### Built to Red-D-Arc Extreme-Duty Specifications

Arc Force Control, Pinch Control, Continuous Output Control  
CC (Stick, TIG), CVI (MIG, Flux-Cored) and CV (Sub Arc) Modes

With true multiprocess capabilities, the DC400 provides outstanding arc characteristics for both constant current and constant voltage applications. Full arc control with MS-style remote control connections. Can also be configured as a 4Pak or 6Pak Multioperator System.

#### Specifications

DC Amperage Range: 60 A at 22 V - 500 A at 42 V      Maximum OCV: 57 VDC

Rated CC Output: 500 A at 40 VDC, 50% duty cycle

450 A at 38 VDC, 60% duty cycle

400 A at 36 VDC, 100% duty cycle

DC Voltage Range: 12 - 42 V

Rated Input Current at 400 A, 36 VDC, 100% duty cycle:

78 amps at 230 volts, 39 amps at 460 volts, 31 amps at 575 volts

Weight (including frame): 544 lb (248 kg)

H: 32.0" (813 mm) W: 28.0" (711 mm) L: 34.25" (870 mm)

#### Options

Three-wheeled shop-type undercarriage (shown), LN25 wirefeeder, 42 VAC and 115 VAC constant speed wirefeeders and spool guns, remote control, 2kW 120 VAC duplex auxiliary receptacle

#### DC400 4Pak, 6Pak Multioperator Systems

DC CC CV



#### DC400 Multioperator 4Pak and 6Pak

All the flexibility of a single DC400 multiprocess welder, in a multioperator package available in both a 4Pak and 6Pak welding system. Since each welder in the Pak operates independently of the others, any combination of welding processes and electrode polarities can be used. Built to Red-D-Arc Extreme-Duty specifications including a unique, proprietary Pak-Lok connection system which permits the removal or replacement of individual units without having to disassemble the complete system. Each Pak operates on either 460 or 575 volt three-phase input power from a single power supply. An available insulated steel base (shown) provides electrical isolation for the Pak when set on a conductive surface, such as the steel deck of a ship.

#### Individual Module Specifications

Same as for individual DC400 power sources.

#### 4Pak Specifications

Weight: 2666 lb (1201.1 kg)

H: 76.0" (1930 mm)

W: 57.0" (1448 mm)

D: 43.5" (1105 mm)

#### 6Pak Specifications

Weight: 3924 lb (1779.9 kg)

H: 76.0" (1930 mm)

W: 84.0" (2134 mm)

D: 43.5" (1105 mm)

#### Options

LN25 wirefeeders, 2kW 120 VAC duplex auxiliary receptacles, remote control, common work connector (shown)

### MULTIPROCESS POWER SOURCES AND PAKS

#### DC600 Extreme-Duty Welder

DC CC CV 2kW



230/460/575 Volt, 60 Hz, 3 Phase Input

#### Rugged Tubular Pak-Lok-Frame

#### Built to Red-D-Arc Extreme-Duty Specifications

Full Range Output Control, Standard Ammeter and Voltmeter  
CC Stick, CV MIG/FCAW, and CV Submerged Arc Welding Modes

Designed for GMAW (MIG), FCAW and submerged arc welding, and stick and air carbon arc gouging with up to 3/8" diameter electrodes. Includes standard terminal strip for wirefeeders and remote controls.

#### Specifications

DC Amperage Range: 70 - 780 A (CV), 90 - 780 A (CC)

Maximum OCV: 72 VDC

Rated CC Output: 680 A at 44 VDC, 60% duty cycle

600 A at 44 VDC, 100% duty cycle

DC Voltage Range: 13 - 44 V (CV), 24 - 42 V (CC)

Rated Input Current at 600 A, 44 VDC, 100% duty cycle:

113 amps at 230 V, 56.5 amps at 460 V, 45.2 amps at 575 V

Weight (including frame): 640 lb (291 kg)

H: 31.6" (803 mm) W: 28.0" (711 mm) L: 41.0" (1041 mm)

#### Options

MS-style connections for remote control and wirefeeders, 42 VAC and 115 VAC constant speed wirefeeders and spool guns, LN25 wirefeeder, LT-7 tractor, remote control, 2kW 115 VAC duplex receptacle

#### DC600 4Pak, 6Pak Multioperator Systems

DC CC CV



#### DC600 Multioperator 4Pak and 6Pak

All the power of a single DC600 multiprocess welder, in a multioperator package available in both a 4Pak and 6Pak welding system. Features both 42 VAC and 115 VAC auxiliary power for operating a wide range of wirefeeders and tractors. Built to Red-D-Arc Extreme-Duty specifications including a unique, proprietary Pak-Lok connection system which permits the removal or replacement of individual units without having to disassemble the complete system. Each Pak operates on either 460 or 575 volt three-phase input power from a single power supply. For added convenience, an available insulated steel base (shown) provides electrical isolation for the Pak when set on conductive surfaces.

#### Individual Module Specifications

Same as for individual DC600 power sources.

#### 4Pak Specifications

Weight: 2832 lb (1284.6 kg)

H: 76.0" (1930 mm)

W: 56.0" (1422 mm)

D: 50.0" (1270 mm)

#### 6Pak Specifications

Weight: 4204 lb (1906.9 kg)

H: 76.0" (1930 mm)

W: 84.0" (2134 mm)

D: 50.0" (1270 mm)

#### Options

Amphenol connections for remote control and wirefeeders, 42 VAC and 115 VAC constant speed wirefeeders and spool guns, LN25 wirefeeder, LT-7 tractor, remote control, 2kW 115 VAC duplex receptacle

### MULTIPROCESS POWER SOURCES

#### DC1000 Extreme-Duty Welder

DC CC CV



230/460/575 Volt, 60 Hz, 3 Phase Input

**Rugged Tubular Pak-Lok-Frame**  
**500 Amp Connections for Sub Arc and MIG Welding**  
**Full Range Output Control, Standard Ammeter and Voltmeter**  
**CC Sub Arc/Gouging, CV Innershield, CV Sub Arc/Gouging Modes**

Specially designed for applications that call for large outputs. Precise control with outstanding arc characteristics on both constant voltage and constant current processes. Air carbon arc gouging with up to 5/8" diameter carbons. Includes a terminal strip with 8 amps of 115 VAC power for automatic and semiautomatic wirefeeders.

#### Specifications

DC Amperage Range: 150 - 1300 A      Maximum OCV: 75 VDC

Rated CC Output:

1000 A at 44 VDC, 100% duty cycle (NEMA Class 1)

1000 A at 50 VDC, 100% duty cycle (based on 10 minute period)

DC Voltage Range: 16 - 46 V

Rated Input Current at 1000 A, 44 VDC, 100% duty cycle:

193 amps at 230 V, 96.5 amps at 460 V, 77.2 amps at 575 V

Weight (including frame): 962 lb (437.3 kg)

H: 31.6" (803 mm) W: 28.0" (711 mm) L: 41.0" (1041 mm)

#### Options

115 VAC and LN25 wirefeeders, LT-7 and LT-56 tractors, remote control, NA-3 and NA-5 automatic wirefeeders

#### IDEALARC AC-1200 Welder

AC CC



**The industry's leading power source for AC Submerged Arc Welding**  
**Produces outstanding arc characteristics**  
**Specifically designed for use with the NA-4 automatic wirefeeder**

The AC-1200 is a power source you can count on day-in and day-out to provide proven performance. Its solid state circuitry provides extra long life for repetitive welding applications. The windings and rectifiers are protected against moisture and corrosive environments. Removable side panels provide easy access to internal parts. Weld consistency is maintained by  $\pm 10\%$  input line voltage compensation. Thermostatic protection from current overload and excessive temperatures.

#### Specifications

AC Amperage Range: 200 - 1500 A

Rated CC Output: 1200 A at 44 VDC, 100% duty cycle

Input Power: 460 Volt, 60 Hz, 1 phase

Rated Input Current at 1200 A, 44 VDC, 100% duty cycle: 182 amps at 460 V

Weight: 1570 lb (712 kg)

H: 57.2" (1453 mm) W: 22.0" (560 mm) L: 38.0" (965 mm)

#### Options

NA-4 automatic wirefeeder, LT-56 sub-arc tractor

### MULTIPROCESS POWER SOURCES

#### IDEALARC DC-1500 Welder

DC CC CV



460 Volt, 60 Hz, 3 Phase Input

**Multiprocess DC Arc Welding Power Source for Automatic Welding Applications  
Full Range Output Voltage Control  
Submerged Arc and Flux-Cored (FCAW) Welding**

The DC-1500 produces outstanding arc characteristics on both constant voltage and constant current processes. This provides great welding versatility in a single power source. Solid state circuitry provides extra long life for repetitive welding applications. The windings and rectifiers are protected against moisture and corrosive environments. Fan cooled with electronic and thermostatic protection from current overload and excessive temperatures. Line voltage compensations for maintaining weld consistency, even with line voltage changes of  $\pm 10\%$ .

**Specifications**

DC Amperage Range: 200 - 1500 A

Rated CC and CV Output:

1500 A at 44 VDC, 1500 A at 60 VDC, 100% duty cycle

DC Voltage Range: 20 - 60 V

Rated Input Current at 1500 A, 44 VDC, 100% duty cycle: 184 amps at 460 V

Weight: 1420 lb (644 kg)

H: 57.2" (1453 mm) W: 22.3" (566 mm) L: 38.0" (965 mm)

**Options**

NA-3S and NA-5 automatic wirefeeders, LT-7 sub-arc tractor, remote output control with adapter

### WELDING ACCESSORIES

#### Welding Cable and Remote Controls



Our welding cable is available in a variety of amperage capacities and comes in 50' and 100' lengths, complete with quick release connectors. Electrode holders and whips are 10' long with connectors, and our ground clamps also connect via quick release connectors.

Remote output current/voltage controls are available for both potentiometer type and rheostat type welders.

All controls require extensions, available in both 50' and 100' lengths.

**Potentiometer Type Remote Control**

For welding machines with 3-pin or 14-pin MS-style connections.

Available with 350 ohm, 1K ohm, or 10K ohm potentiometers, and with rubber or high impact plastic housings.

**Rheostat Type Remote Control**

For remote Fine Current adjustment on Red-D-Arc D300K 3+3 diesel welders and Job Selector (open-circuit voltage) adjustment on Red-D-Arc D503K 5+3HO diesel welders.

### ADVANCED PROCESS WELDERS

#### EX350i Advanced Process Welder

DC CC CV



Stick, MIG, DC TIG, Pulsed MIG, Flux-Cored and Arc Gouging Welding Modes  
Advanced Process Model includes Pulsed MIG, Pulse-On-Pulse and Power Mode  
Built to Red-D-Arc Extreme-Duty Specifications  
Available as 4Pak Multioperator System

The EX350i Advanced Process Welder is a versatile, multipurpose, multiprocess power source that's lightweight and portable. It is capable of virtually any job, making it the most versatile inverter power source in its class. And it's built tough, with a rugged skid and tube handles, to handle the rigors of harsh environments. The bright, large digital amp and volt meters are easy to monitor - even in sunlight - and presettable for precise procedure control.

#### Specifications

DC Amperage Range: 5 - 425 A      Maximum OCV: 80 VDC  
Rated Output: 350 A at 34 VDC, 60% duty cycle  
DC Voltage Range: 10 - 45 V on CV Wire, 10 - 45 V on CV Flux-Cored  
Input Current at Rated Output:

	208V	230V	415V	460V	575V	
in amps	94	85	54	42	37	
	Single-Phase					
	Three-Phase	50	42	28-26	23	18

Weight: 81 lb (36.7 kg)  
H: 14.8" (376 mm) W: 13.3" (338 mm) L: 27.8" (709 mm)

#### Options

LN25 voltage sensing wirefeeder, 42 VAC and 115 VAC constant speed wirefeeders and spool guns, remote control, K930-2 TIG Module for high-frequency TIG welding

208/230/415/460/575 Volt, 50/60 Hz, 1 Phase and 3 Phase Input

#### EXtreme360 MAP Inverter Welder

DC CC CV



Stick, MIG, TIG, Flux-Cored, Air Carbon Arc Cutting and Gouging  
Now With Built-in Pulsed MIG capability  
Built to Red-D-Arc Extreme-Duty Specifications  
Available as 4Pak Multioperator System

350 amp at 60% duty cycle, constant current/constant voltage, DC inverter welder with built-in pulsed MIG capability. The advanced arc control provides more control over the puddle and weld bead using SharpArc, and a more robust and stable arc at very low arc lengths. Reduced heat input allows for welding on a wider range of material thicknesses. Can handle virtually any welding job, including those hard-to-weld alloys. Convenient Auto-Line Power Management technology allows for any input voltage with no manual linking.

#### Specifications

Welding Amperage Range: 5 - 425 A in CC mode, 10 - 38 V in CV mode  
Maximum OCV: 75 VDC  
Rated CC Output: 350 A at 34 VDC, 60% duty cycle, three-phase  
300 A at 32 VDC, 60% duty cycle, single-phase  
Input Current at Rated Output:

	208V	230V	400V	460V	575V	kVA	kW	
in amps	60.8	54.6	29.7	24.5	19.9	11.7	11.2	
	Single-Phase							
	Three-Phase	40.4	36.1	20.6	17.8	14.1	14.2	13.6

Weight: 80 lb (36.3 kg)  
H: 17.0" (432 mm) W: 12.5" (318 mm) L: 24.0" (610 mm)

#### Options

Voltage sensing and benchtop wirefeeders, remote control

208 to 575 Volt, 50/60 Hz, 1 Phase and 3 Phase Input





### ADVANCED PROCESS WELDERS

#### POWER WAVE 455M

DC CC CV



208/230/460/575 Volt, 50/60 Hz, 3 Phase Input

Stick, MIG, TIG, Pulsed, Flux-Cored and Arc Gouging Welding Processes  
Pulse-On-Pulse and Power Mode with Waveform Control Technology  
60 standard programs for electrode size, type, and shielding gas combinations  
for optimal appearance, penetration, beadshape and travel speed

For welding thicker materials in robotics, hard automation and semiautomatic applications. Features Waveform Control Technology for superior arc performance on a variety of materials, including steel, stainless steel, aluminum and nickel alloys. Delivers custom control of the arc for a given wire type, size and shielding gas configuration for consistent welds time after time. Designed to be components in a modular, multiprocess welding system capable of digital communication (ArcLink) with other industrial machines to create a highly integrated and flexible welding cell.

#### Specifications

DC Amperage Range: 5 - 570 A	Maximum OCV: 75 VDC		
Rated Output: 60 Hz	50 Hz		
450 A at 38 VDC	400 A at 36 VDC	100% duty cycle	
570 A at 43 VDC	500 A at 40 VDC	60% duty cycle	
DC Voltage Range: 5 - 55 V on Pulse	Pulse Frequency: 0.15 - 1000 Hz		
Input Current at Rated Output:	208V	230V	460V 575V
rated output 60 Hz 100%/60%	58/82	53/78	25/37 22/31
rated output 50 Hz 100%/60%	49/67	45/61	23/31 18/25

Weight: 286 lb (130 kg)  
H: 26.1" (663 mm) W: 19.9" (505 mm) L: 32.9" (835 mm)

#### Options

Power Feed 10M or 25M wirefeeders, DeviceNet Interface Module

#### POWER WAVE 455M/STT

STT DC CC CV



208/230/460/575 Volt, 50/60 Hz, 3 Phase Input

Stick, MIG, TIG, Pulsed, STT, Flux-Cored and Arc Gouging Welding Processes  
Features Surface Tension Transfer Process  
Pulse-On-Pulse and Power Mode with Waveform Control Technology  
60 standard programs for electrode size, type, and shielding gas combinations  
for optimal appearance, penetration, beadshape and travel speed

For applications where heat input control, minimal distortion, and reduced spatter are essential. Features Waveform Control Technology for superior arc performance on a variety of materials. Delivers custom control of the arc for a given wire type, size and shielding gas configuration for consistent welds. Designed to be used in a modular, multiprocess welding system capable of digital communication (ArcLink) with other industrial machines to create a highly integrated and flexible welding cell.

#### Specifications

DC Amperage Range: 5 - 570 A, 5 - 325 A on STT	Maximum OCV: 75 VDC		
Rated Output: 60 Hz	50 Hz		
450 A at 38 VDC	400 A at 36 VDC	100% duty cycle	
570 A at 43 VDC	500 A at 40 VDC	60% duty cycle	
DC Voltage Range: 5 - 55 V on Pulse	Pulse Frequency: 0.15 - 1000 Hz		
Input Current at Rated Output:	208V	230V	460V 575V
rated output 60 Hz 100%/60%	58/82	53/78	25/37 22/31
rated output 50 Hz 100%/60%	49/67	45/61	23/31 18/25

Weight: 293 lb (133 kg)  
H: 26.1" (663 mm) W: 19.9" (505 mm) L: 32.9" (835 mm)

#### Options

Power Feed 10M or 25M wirefeeders, DeviceNet Interface Module

## ADVANCED PROCESS WELDERS

### POWER WAVE AC/DC 1000

### AC DC CC CV



380/400/460/500/575 Volt, 50/60 Hz, 3 Phase Input

#### Submerged Arc Welding

**First Power Source to Introduce Waveform Control Technology to Sub-Arc Increases Weld Speeds, Yields Higher Quality Welds, Improves Efficiencies Variable Frequency and Amplitude AC, DC+ or DC- Output Constant Current and Constant Voltage Modes Available**

Eliminate downtime with easy polarity switching - there is no hardware reconfiguration required. Depending on the output, a welding arc may be driven by a single machine or multiple machines in parallel if more than 1000 amps of continuous operation is required. Uses ArcLink, Ethernet and DeviceNet to provide remote process monitoring, control and troubleshooting.

#### Specifications

Output Amperage Range: 200 - 1000 A  
 Rated CC or CV Output: 1000 A at 44 VDC, 100% duty cycle  
 Input Current at Rated Output: 82 A at 380 V, 79 A at 400 V, 69 A at 460 V, 62 A at 500 V, 55 A at 575 V  
 Power Factor at Rated Output: .95 Efficiency at Rated Output: 86%  
 Open Circuit Voltage: 25 to 100 V<sub>RMS</sub>  
 Weight: 650 lb (295 kg)  
 H: 43.5" (1105 mm) W: 19.2" (488 mm) L: 33.0" (838 mm)

#### Options

Wirefeeder Options: Cruiser Tractor (mobile, for in-field or in-yard) or Power Feed 10A Controller (for in-plant) with Power Feed 10S Heads  
 ArcLink/LincNet interface, cables and accessories

## MULTIOPERATOR DC CONVERTERS

### MX350 Multi-Weld DC Converter

### DC CC CV

#### System Description

Instead of operating with high voltage AC current like a conventional electric welder, the MX350 uses low DC arc voltage from a constant current electric or engine-driven welding machine, to produce up to 350 amps, DC positive, welding current at 100% duty cycle for stick welding or up to 40 volts of constant voltage power for MIG and flux-cored welding. The number of MX350 converters that can be run simultaneously from a single power source depends on the power source's output (kilowatts available), the welding processes used (kilowatts required), and the operating factor (how many MX350 converters are actually welding at any given time). Use of this system results in drastically reduced fuel consumption since one power source used in conjunction with MX350 converters replaces several individual conventional power sources.



#### Weights and Dimensions

Weight: 59 lb (26.8 kg) H: 11.6" (295 mm) W: 10.0" (254 mm) D: 21.5" (546 mm)

#### Minimum Input Voltage Requirements

60 Volts DC, Constant Current

#### Processes

- DC Positive Stick, MIG and Flux-Cored welding
- Arc Gouging using up to 5/16" carbons
- When operating several MX350s, any combination of DC positive welding processes can be used

#### Specifications

Rated CC DC Output/Volts/Duty Cycle	Output Range	Input DC Volts	Input Amps at Rated Output
350 amps, 34 volts at 100% duty cycle	30 - 350 amps 15 - 40 volts	60 - 80 volts DC 50 - 113 volts peak range	165 amps DC

(continued on next page)

### MULTIOPERATOR DC CONVERTERS

#### MX350 Multi-Weld DC Converter, continued

##### Operational Advantages

- Units are small and portable, each weighing only 59 lb
- CC and CV process mode switch for DC positive welding processes
- Pre-set inductance in CV Mode results in optimized CV welding characteristics
- Chopper Technology for high performance, smooth quality welds and instant control of the arc
- CC Stick Soft and CC Stick Crisp mode switch for better control with E6010 and E7018 electrodes
- Multiple operator welding from a single power source results in reduced fuel consumption, emissions and noise
- No need to run remote control cables since all controls are located close to the operator for quick and easy access
- Adjustable controls for Hot Start and Arc Force as well as large, bright digital meters that indicate preset values before welding and actual values while welding assure better weld quality
- Less welding cable is required because a single welding cable is run from the power source to the MX350, either using a distribution box to connect the MX350s into or, running the MX350s in series, one plugged into the other
- A safer work area since a single low voltage cable, 60 volts DC, is brought from the power source to one or more distribution boxes which supply power to several MX350 converters



##### Power Source/MX350 Multi-Weld Combinations

	Kilowatts Available (@60V output)	Number of Arcs 1/8" E7018 Stick Electrode (3.9 kW/arc)	Number of Arcs .045" Flux-Cored Gas Shielded Wire @300 ipm, 185A, 28V (5.7 kW/arc)
<b>Electric Power Sources</b>			
DC600	15	4	3
DC1000	30	8	5
DC1500	94	24	16
<b>Engine-Driven Diesel Welders</b>			
D300K 3+3	12	3	2
DX450	6	Up to 5 <sup>(1)</sup>	Up to 3 <sup>(1)</sup>
D502K 5+20	30	8	5

Number of Arcs = Power Source kW (available) divided by Process kW (required)

<sup>(1)</sup> As tested (simultaneous, continuous welding)



### MIG PACKAGES

#### LF72 and DC400 MIG Welding Package



**Package Includes:**

- RDA DC400 Power Source (230/460/575 volt input)
  - LF72 2 Roll Wirefeeder (other feeders available upon request)
  - Drive Roll Kit
  - Magnum 400 15' MIG Gun with Connector Kit
  - Flometer Regulator
  - Gas Hose
  - Ground Cable and Ground Clamp
  - Universal Drive Reel Stand
  - Wirefeeder Control Cable
  - Three-Wheeled Undercarriage
- Package does NOT include wire and shielding gas

Wire Feed Speed Range: 100 - 800 IPM (2.5 - 20.3 m/min)  
Wire Size Range: .023 - 1/16" solid wire (0.6 - 1.6 mm)  
.030 - 5/64" cored wire (0.8 - 2.0 mm)

The LF72 is designed for flux-cored gas and MIG processes and includes the patented MAXTRAC heavy-duty cast aluminum wire-drive system for reliable feeding and durability as well as totally tool-less drive rolls and wire guide installation. Calibrated wire feed speed dial for precise and accurate settings with positive arc starting and feeding with stainless steel, aluminum and flux-cored wires. The control cable connector with a Spin-Nut makes connecting the control cable a simple twist-of-the-wrist.

#### 12VS Wirefeeder and EX360 MIG Welding Package



**Package Includes:**

- EX360 Power Source (208-575 volt, 1/3 phase, 50/60 Hz input)
  - 12VS Wirefeeder (operates on Arc Voltage and Open Circuit Voltage from CV or CC Welders, 14 - 48 VDC)
  - Drive Roll Kit
  - Flometer Regulator
  - Gas Hose
  - Ground Cable and Ground Clamp
- Package does NOT include wire and shielding gas

Wire Feed Speed Range: 50 - 780 IPM (1.3 - 19.8 m/min)  
Wire Size Range: .023 - 5/64" solid wire (0.6 - 2.0 mm)  
.030 - 5/64" flux-cored wire (0.8 - 2.0 mm)  
Maximum Spool Size: 12" (305 mm), 45 lb (20.4 kg)

Excellent performance for stick, MIG, TIG and flux-cored welding processes, and can also provide pulsed MIG with the optional Optima control. Auto-Line Power Management on the EX360 allows for operation with any type of primary power from 208 to 575 VAC, which is ideal for unreliable power. Both machines offer rugged construction, protection from outside contaminants, reduced noise and energy requirements, and ease of use. For more information on the EX360, see Page 18.

This MIG package can also be configured with the EX300 Inverter Welder.

### SEMI-AUTOMATIC WIREFEEDERS

#### LN25 Portable Wirefeeder

DC CV CC



**Control Cable Not Required**  
**Operates off Welder Arc Voltage**  
**For MIG and Flux-Cored Welding**  
**Maximum Versatility and Portability**

This wirefeeder operates off arc voltage with a voltage sensing control circuit so a control cable is not required. To operate, simply connect the welding cable from the power source, attach the work clip and you're ready to weld. Includes a voltmeter, a gas solenoid, and an internal contactor. Can be operated with all electric and engine-driven welders with CV capability but can also be used with CC welders for non-critical welds. The LN25 provides constant wire feed speed for use with CV power sources and arc-sensing wire feed speed for CC power sources and will handle weld currents up to 300 amps at 60% duty cycle. For MIG and flux-cored arc welding processes using from 10 lb to 44 lb wire spools. Specify wire size and type for correct drive roll selection.

#### Specifications

Rated Current: 300 A at 60% duty cycle  
 Wire Feed Speed: 50 - 700 IPM (1.3 - 17.7 m/min)  
 Input Voltage: 15 - 40 VDC (110 VDC maximum OCV)  
 Wire Diameters: .023 - 1/16" (0.6 - 1.6 mm) solid steel wire  
                           .035 - 5/64" (0.9 - 2.0 mm) cored wire  
                           .035 - 1/16" (0.9 - 1.6 mm) aluminum wire  
 Weight: 35 lb (15.9 kg)  
 H: 14" (356 mm) W: 7.5" (191 mm) L: 21" (533 mm)

#### LN25 PRO-Extreme Portable Wirefeeder

DC CV CC



**Portable Industrial Feeder**  
**MIG, Pulsed, and Flux-Cored Welding**  
**Digital Meters for increased monitoring**  
**Sturdier and rugged spindle design with an incorporated brake**

Built upon the tradition and success of the LN25, the new LN25 PRO-Extreme is designed to be simple, reliable and easy to service. The LN25 PRO-Extreme is ideal for field construction and fabrication, and shipyards. The MAXTRAC wire drive enhances performance, while the replacement case - and many other upgrade options - can be installed in less than five minutes. Includes a gas solenoid and flow meter to run both flux-cored and MIG wires. A 2-Step/trigger interlock provides comfort for long welds. An analog voltmeter with polarity indicator LED automatically adjusts to the welding polarity. The display shows wire feed speed or amperage and welding voltage. The polycarbonate case design is lightweight, impact and flame resistant, to protect the internal components, and can be replaced quickly if needed, without having to replace the entire unit. A potted and trayed PC board protects against corrosion.

#### Specifications

Output Capacity Current: 325 A at 100% duty cycle, 450 A at 60% duty cycle  
 Wire Feed Speed: 50 - 700 IPM (1.3 - 17.7 m/min)  
 Input Voltage: 15 - 110 VDC  
 Wire Diameters: .023 - 1/16" (0.6 - 1.6 mm) solid steel wire  
                           .030 - 5/64" (0.8 - 2.0 mm) cored wire  
                           .035 - 1/16" (0.9 - 1.6 mm) aluminum wire  
 Weight: 36 lb (16 kg) H: 15.0" (381 mm) W: 8.7" (221 mm) L: 23.2" (589 mm)



### WIREFEEDER/WELDERS

#### Power MIG 350MP Push-Pull One-Pak

DC CC CV



208/230/460/575 Volt, 60 Hz, 1 Phase Input

**MIG, Flux-Cored, Stick, TIG, Pulsed MIG**  
**Also Advanced Processes like Pulse-on-Pulse and Power Mode**  
**Push-Pull or Spool Gun Ready**  
**Dual Procedure Capable - Select either two welding procedures or two modes**

When you need more than just a MIG machine, the Power MIG 350MP is the choice for you. Lincoln Chopper Technology delivers many more welding processes, along with high quality welds and increased control over the welding arc. Future waveforms of special or improved welding processes can be downloaded into the Power MIG, so this machine can keep up with evolving technologies. Synergic control of voltage with wire feed speed allows you to set weld procedures with only one control for simplicity. Rugged cast aluminum industrial wire drive features dual driven rolls, easy-turn numeric tension indicator, and brass-to-brass gun connections.

#### Specifications

Rated Output (CC and CV): 300 A at 32 V, 60% duty cycle

DC Amperage Range: 5 - 350 A      Maximum OCV: 67 V

DC Voltage Range: 10 - 45 V

Single-Phase Input Current at Rated Output:

76 A at 208 V, 64 A at 230 V, 37 A at 460 V, 29 A at 575 V

Wire Feed Speed: 50 - 700 IPM (1.3-17.8 m/min)

Solid Wire Size Range: .023 - .045" (0.6 - 1.2 mm)

Cored Wire Size Range: .035 - .045" (0.9 - 1.2 mm)

Weight: 255 lb (115.7 kg)

H: 31.8" (808 mm) W: 18.9" (480 mm) L: 38.8" (985 mm)

#### Millermatic 252

DC CV



200(208)/230 Volt or 230/460/575 Volt, 60 Hz, 1 Phase Input

**MIG and Flux-Cored Welding Processes**  
**Push-Pull Gun Direct Connect - no extra module required**  
**Features no-tool, quick-change reversible drive rolls**

Active Arc Stabilizer provides excellent starts. Line voltage compensation provides constant output with fluctuations in input power. Large, digital front panel with built-in digital timers menu enables operator to preset voltage and wire feed speed. Standard run-in, pre/postflow, burnback, spot/delay (stitch) timer menu. Auto Gun Detect allows operator to simply pull the trigger on MIG gun, spool gun or push/pull gun. Automatically detects and recalls the voltage, wire feed speed and timer of the active gun. Fan-on-Demand cooling system only operates when needed, reducing power consumption and contaminants.

#### Specifications

Rated DC Output: 200 A, 28 VDC at 60% duty cycle

250 A, 28 VDC at 40% duty cycle

DC Amperage Range: 30 - 300 A      Maximum OCV: 38 V

Amps Input at Rated Output, 60 Hz:

200(208) V	230 V	460 V	575 V	kVA	kW
48	42	21	17	9.8	7.5

Wire Feed Speed: 50 - 700 IPM (1.3 - 17.8 m/min)

Weight: 207 lb (94 kg)    H: 30" (762 mm)    W: 19" (483 mm)    L: 40" (1016 mm)

Maximum Spool Size: 12" (305 mm)

Wire Type and Diameter

Solid/Stainless Steel: .023 - .045" (0.6 - 1.2 mm)

Flux-Cored: .030 - .045" (0.8 - 1.2 mm)



### SUBMERGED ARC TRACTORS

#### LT-7 Submerged Arc Tractor

DC CV



**Maximum Versatility and Portability  
Self-Propelled Mechanized DC Wirefeeder  
For MIG and Flux-Cored Automatic Welding  
For Flat and Horizontal Submerged Arc Welds**

The LT-7 is a self-propelled mechanized DC wire feeder for submerged arc welding. Perfect in heavy fabrication industries where long welds in the flat and horizontal position are required. May be used with or without an optional track. Solid state controls precisely regulate procedures for reliable starting and economical welding to exacting requirements. Automatic compensation for input voltage and tractor loading variations, minimizes wire feed and tractor speed changes while welding. Close mechanical alignment between wire and joint maximizes weld quality. Exceptional tracking control and self-steering in most applications. Operates off 115 VAC power.

**Specifications**

Welding Amperage Capacity: up to 1000 amps  
Wire Feed Speed: 100 - 400 IPM  
Travel Speed: 6 - 70 IPM  
Wire Size Range: 3/32" - 3/16"  
Weight: 65 lb (29.5 kg)  
H: 27.5" (699 mm) W: 33.0" (838 mm) L: 14.0" (356 mm)

### AUTOMATIC WIREFEEDERS

#### NA-3S

for use with CC or CV DC POWER SOURCES



**For heavy duty fabrication and assembly line production  
MIG, Flux-Cored and Submerged-Arc Welding Processes  
Arc Sensing or Constant Wire Feed Speed Control with Hot or Cold Starting  
For use with either Constant Current or Constant Voltage DC Power Sources  
Electrode position adjustments lock tight for pushbutton production welding**

Automatic Wirefeeders deposit more metal at faster travel speeds than semiautomatics to increase production, eliminating bottlenecks and cutting costs. The NA-3S is easily adjusted for a wide range of processes, feed speeds, wire sizes, procedures and methods as needed. Compact units with excellent flexibility fit into simple fixtures or the most complex automated production lines. Solid state controls and rugged construction minimize down time and maintenance costs. The precise control of welding procedures, striking characteristics, start and stop, bead size and shape, and arc stability facilitates economical welding to the most exact requirements.

**Specifications**

Wire Size Range - Solid Wire: 1/16 - 7/32" (0.8 - 5.6 mm)  
Cored Wire: 0.35 - 5/32" (0.9 - 4.0 mm)  
Wire Feed Speed: 25 - 650 IPM (0.6 - 16.5 m/min)  
Input Power: 115 VAC, 50/60 Hz  
Weight: 44 lb (20 kg)  
Dimensions: H: 15.0" (381 mm) W: 15.0" (381 mm) L: 15.0" (381 mm)

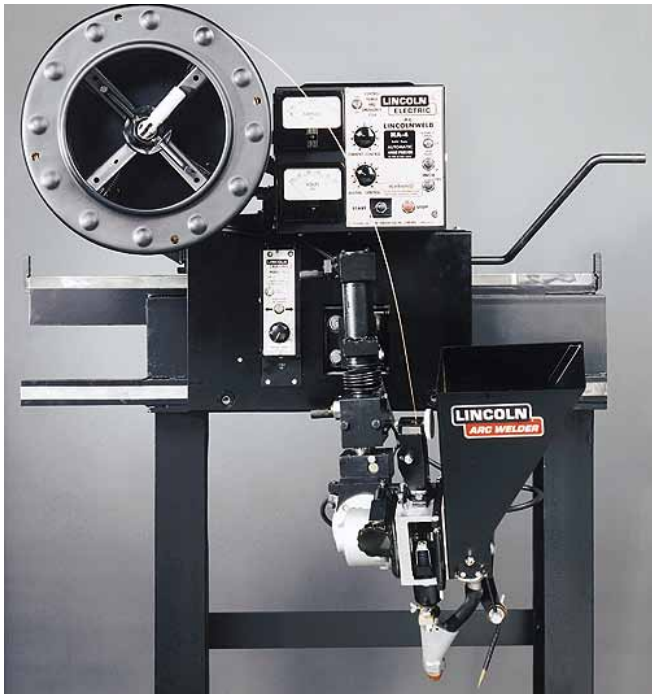
**Required Options**

Nozzle assembly, power cable, control cable, power source

### AUTOMATIC WIREFEEDERS

NA-4

for use with CC AC POWER SOURCES



**For heavy duty fabrication and assembly line production**  
**Submerged-Arc Welding Processes**  
**Arc Sensing Control with Hot or Cold Starting**  
**For use with Constant Current AC Power Sources**  
**Electrode position adjustments lock tight for pushbutton production welding**

Automatic Wirefeeders deposit more metal at faster travel speeds than semiautomatics to increase production, eliminating bottlenecks and cutting costs. The NA-4 is easily adjusted for a wide range of processes, feed speeds, wire sizes, procedures and methods as needed. Compact units with excellent flexibility fit into simple fixtures or the most complex automated production lines. Solid state controls and rugged construction minimize down time and maintenance costs. The precise control of welding procedures, striking characteristics, start and stop, bead size and shape, and arc stability facilitates economical welding to the most exact requirements.

#### Specifications

Wire Size Range - Solid Wire: 1/16 - 7/32" (0.8 - 5.6 mm)  
Wire Feed Speed: Subject to Arc Voltage Used  
Input Power: 115 VAC, 50/60 Hz  
Weight: 35 lb (15.9 kg)  
Dimensions: H: 15.25" (387 mm) W: 15.5" (394 mm) L: 15.4" (391 mm)

#### Required Options

Nozzle assembly, power cable, control cable, power source

NA-5

for use with CV DC POWER SOURCES



**Designed for Multiprocess CV Operation**  
**MIG, Flux-Cored and Submerged-Arc Welding Processes**  
**Arc Starting by the 'Hot Start' or 'Cold Start' methods**  
**For use with Constant Voltage DC Power Sources**  
**Electrode position adjustments lock tight for pushbutton production welding**

Designed for Multiprocess CV Operation - Innershield, Submerged-Arc and other Open Arc Processes. May be used with available procedure and control interface options for remote operating versatility. The NA-5 is easily adjusted for a wide range of processes, feed speeds, wire sizes, procedures and methods as needed. Solid state controls and rugged construction minimize down time and maintenance costs. The precise control of welding procedures, striking characteristics, start and stop, bead size and shape, and arc stability facilitates economical welding to the most exact requirements. The arc voltage and wire feed speed can be preset on digital meters before the arc is struck and the settings remain precise.

#### Specifications

Wire Size Range - Solid Wire: 0.35 - 7/32" (0.9 - 5.6 mm)  
Cored Wire: 0.45 - 5/32" (1.2 - 4.0 mm)  
Wire Feed Speed: 25 - 775 IPM (0.6 - 19.7 m/min)  
Input Power: 115 VAC, 50/60 Hz  
Weight: 41 lb (18.6 kg)  
Dimensions: H: 12.75" (324 mm) W: 18.5" (470 mm) L: 22.25" (565 mm)

#### Required Options

Nozzle assembly, power cable, control cable, power source

### AUTOMATIC GIRTH (AGW) WELDERS

#### Ransome AGW Girth Welder



**Cuts In-Field Storage Tank Welding Time Up to 40%**  
**Self-Propelled Carriage**  
**Operator Controlled Speeds from 4 to 105 IPM**  
**Handles Plates 6' to 10' High as Thick as 2"**  
**Weld Tanks from the Largest to as Small as 40' in Diameter**

Speeds construction 20 times faster than standard manual techniques for field erected storage tanks.

The AGW travels at operator controlled speeds of 4 IPM to 105 IPM and can handle plate as thick as 2" and tank diameters from the largest to as small as 40'. It is available as a single mobile welding station completely equipped with welding heads, all controls, flux support belts and flux recovery units.

The adjustable "A" frame straddles the tank shell plates riding on serrated steel drive wheels that can be adjusted for your tank diameter.

The tubular frame telescopes manually for efficient handling of heights of steel plate from 6' to 10' high.

Quick position guide wheels simplify loading and offloading. Helps speed up positioning for welding equipment.

The stable operator platform is a sturdy and solid work station with guard rails and all-weather curtains for operator safety and comfort and is fully equipped with its own direction and speed controls.

This package is neatly arranged ergonomically for convenience, accessibility and efficiency. Includes the Lincoln NA-3 solid state control and welding head fitted with nozzles, wire feed rolls, straighteners and 50 lb wire reels for either single or twin-arc wire. The submerged arc flux belt mechanism ensures retention of the flux at the joint for efficient recycling.

Comes complete with a Red-D-Arc DC600 or DC1000 power source. Installation and set-up technicians for 3 O'Clock welders are available at additional cost.



### TIG WELDERS

See also page 11 for D550K TIG portable TIG welder

#### Maxstar 200 SD

DC CC



115 to 460 Volt, 50/60 Hz, 1 Phase or 3 Phase Input

**Provides a solution for every user's needs: from simple to fully automated TIG (GTAW) and Stick (SMAW) Welding Processes**  
**Blue Lightning - High Frequency Arc Starter for non-contact arc initiation**

Blue Lightning provides more consistent arc starts compared to traditional high frequency arc starters. The 200 SD is more reliable and no maintenance is required on the solid state components. Preset parameters provide optimized starting for applications from thick to micro thin material. For unique applications, custom settings are programmable. Auto-Line Power Management Technology allows for any input voltage hookup (115-460 V) with no manual linking. Fan-On-Demand power source cooling system operates only when needed reducing noise, energy use, and the amount of contaminants pulled through the machine.

#### Specifications

Rated DC Output (TIG):

175 A, 17 V at 60% duty cycle, three-phase

175 A, 17 V at 60% - 150 A, 16 V at 70% - 125 A, 15 V at 100%, single-phase

DC Amperage Range: 1 - 200 A Maximum OCV: 75 V

Amps Input at Rated Output, 50/60 Hz:

	115 V	200 V	230 V	400 V	440 V	460 V	kVA	kW
three-phase 60%	--	12.1	10.5	6.0	5.3	5.2	4.2	4.0
single-phase 60%	--	19.9	17.4	--	--	--	4.0	4.0
70%	29.7	--	--	--	--	--	3.4	3.4
100%	23.0	--	--	--	--	--	2.6	2.6

Weight: 37 lb (16.8 kg)

H: 13.5" (343 mm) W: 7.5" (191 mm) L: 17.5" (445 mm)

#### Dynasty 350

AC DC CC



208 to 575 Volt, 50/60 Hz, 1 Phase or 3 Phase Input

**Powerful, Compact AC/DC Inverter with total AC arc shaping capabilities**  
**TIG (GTAW), Pulsed TIG (GTAW-P) and Stick (SMAW) Welding Processes**  
**High Frequency Arc Starter for non-contact arc initiation**  
**Lift-Arc Start provides AC or DC arc starting without the use of high frequency**

Auto-Line Power Management Technology allows for any input voltage hookup (208-575 V) with no manual linking, providing convenience in any job setting and is an ideal solution for dirty or unreliable power. Wind Tunnel Technology protects the internal electrical components from airborne contaminants, extending the product life. Fan-On-Demand power source cooling system operates only when needed reducing noise, energy use and the amount of contaminants pulled through the machine. The Dynasty 350 has a 120 V auxiliary power receptacle for running cooling systems or small tools. Meter Calibration allows meters to be calibrated for certification.

#### Specifications

Rated Output:

250 A, 30 V at 100% duty cycle - 300 A, 32 V at 60% duty cycle, three-phase

180 A, 27.2 V at 100% duty cycle - 225 A, 29 V at 60% duty cycle, single-phase

DC Amperage Range: 5 - 350 A, single- or three-phase Maximum OCV: 75 V

Input Current at Rated Output (60% duty cycle) in Amps:

	208 V	230 V	400 V	460 V	575 V	kVA	kW
Three-phase:	35	32	18	16	13	12.7	12.1
Single-phase:	47	43	---	21	17	9.8	9.1

Weight: 135.5 lb (61.5 kg)

H: 24.75" (629 mm) W: 13.75" (349 mm) L: 22.0" (559 mm)

### TIG WELDERS

#### SYNCROWAVE 250

#### AC DC CC 1 Phase Input



Shown with Cool Runner 3X coolant system and remote foot control

**Output Range of 5 to 310 Amps**  
**High Precision AC DC TIG Welding**  
**Stick (SMAW), AC/DC TIG (GTAW) Welding**

Excellent welding performance, control and versatility. Includes all the essential features needed for high-precision AC TIG welding, plus the flexibility to handle a wide variety of metals. An effective solution in any light industrial situation that requires constant current Squarewave technology. Delivers AC or DC current for TIG (GTAW), stick (SMAW), or Pulsed-TIG (GTAW-P) with the optional PC300 TIG pulsing control. Available with running gear, coolant system for water-cooled TIG applications and a variety of remote foot and hand controls.

#### Specifications

Welding Amperage Range: 5 - 310 A      Maximum OCV: 80 V  
Rated Output: 250 A, 30 V at 40% duty cycle  
Input Current at Rated-Load:  
110 A at 200 VAC, 96 A at 230 VAC, 48 A at 460 VAC, 38 A at 575 VAC  
Rated Output: 200 A, 28 V at 40% duty cycle  
Input Current at Rated-Load:  
88 A at 200 VAC, 77 A at 230 VAC, 38 A at 460 VAC, 31 A at 575 VAC  
Weight: 355 lb (161 kg)  
H: 30.75" (781 mm) W: 19.25" (489 mm) L: 27" (686 mm)

#### SYNCROWAVE 350 LX

#### AC DC CC 1 Phase Input



Shown with Cool Runner 3X coolant system and remote foot control

**Output Range of 4 to 400 Amps**  
**Constant Current Squarewave Technology**  
**Stick (SMAW), AC/DC TIG (GTAW), Pulsed TIG (GTAW-P) Welding**

An exceptional single-phase TIG/Stick power source designed for the master welding craftsman. Delivers up to 400 amps of welding current. User friendly front panel with easy-to-use pushbuttons for process set-up. Includes pulser with preflow and postflow settings. Also available with an optional TIG sequencer. Lift-Arc circuit allows DC TIG starting without the use of high frequency. Balance/Dig controls, Pulser, Memory recall and digital volt and amp meters are included. Optional equipment includes start time/spot time control, crater time control, sequence selection switch, start and final current control. Available with running gear, coolant system for water-cooled TIG applications and a variety of foot and hand remote controls.

#### Specifications

Welding Amperage Range: 3 - 400 A      Maximum OCV: 80 V  
Rated Output: 350 A, 34 V at 40% duty cycle  
Input Current at Rated-Load:  
150 A at 200 VAC, 131 A at 230 VAC, 66 A at 460 VAC, 53 A at 575 VAC  
Rated Output: 300 A, 32 V at 60% duty cycle  
129 A at 200 VAC, 112 A at 230 VAC, 56 A at 460 VAC, 45 A at 575 VAC  
Weight: 355 lb (161 kg)  
H: 37.875" (962 mm) W: 22.875" (581 mm) L: 25.25" (641 mm)



## Positioning Equipment...

POSITIONERS

MANIPULATORS

TURNING ROLLS

SUBMERGED ARC EQUIPMENT



### POSITIONING EQUIPMENT

#### 500 lb to 85,000 lb CAPACITY POSITIONERS

Red-D-Arc rents a variety of positioning equipment for both manual and automated welding and cutting processes including:

**Positioners** with rotating/tilting tables and optional scroll chucks and gripper chucks, available in capacities from ranging from 100 lb to 85,000 lb

**Manipulators** from 4 X 4 to 12 X 12 available with optional NA-3 automatic welding heads/controls and travel carriages with track

**Turning Rolls** for tank and vessel rotation including both drive and idler rolls, from 1,500 lb to 400 ton capacity

**Submerged Arc Welding Packages** for use with positioning equipment to provide a turn-key, fully-automated welding system. LT-7 tractors (track or trackless) and LN-9 Squirtmobiles are also available.

**Flux-Recovery Systems** for use with submerged arc packages for recovery and recirculation of flux

**High-Amperage DC and AC Power Sources** to provide welding power for positioning-equipment welding packages

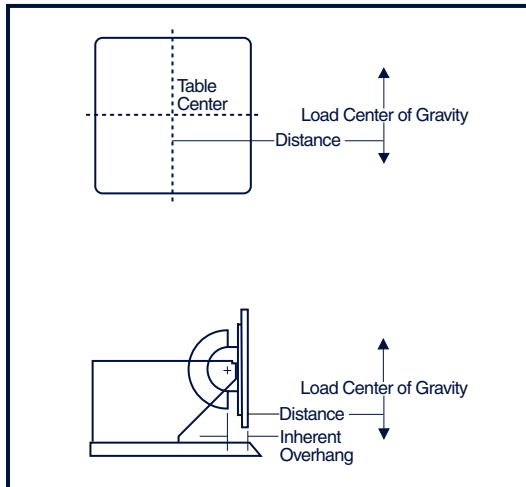


#### Positioner Load Capacity Table

MODELS AVAILABLE	LB-IN Max. Rotation	Torque Tilt	INH.* O.H.	C.G.											
				@4"	@6"	@12"	@18"	@24"	@30"	@36"	@42"	@48"	@54"	@60"	
PA-5MT	2,000	4,000	3.81	500	400	250	180	140	115	100	85	75	69	63	
PA-15 HD4	6,000	18,100	4.25	1,500	1,500	1,110	810	640	525	450	390	340	310	280	
PA-30 HD6	18,000	29,735	6.00	3,000	2,475	1,650	1,240	990	825	705	620	550	495	450	
PA-45 HD12	54,000	91,900	7.00	4,500	4,500	4,500	3,675	2,965	2,485	2,135	1,875	1,670	1,500	1,370	
PA-60 HD12	72,000	124,500	8.75	6,000	6,000	6,000	4,655	3,800	3,210	2,780	2,450	2,195	1,985	1,810	
PA-100 HD12	120,000	163,300	9.00	10,000	10,000	7,775	6,045	4,945	4,185	3,630	3,200	2,865	2,590	2,365	
PA-160 HD12	192,000	344,000	9.50	16,000	16,000	16,000	12,500	10,265	8,700	7,560	6,680	5,980	5,415	4,950	
PA-240 HD12	288,000	510,000	9.25	24,000	24,000	24,000	18,715	15,340	12,995	11,270	9,950	8,900	8,065	7,365	
PA-300	360,000	705,000	11.50	30,000	30,000	30,000	23,898	19,859	16,988	14,842	13,178	11,849	10,763	9,860	
HD-400	480,000	840,000	9.00	-	-	40,000	31,000	25,000	21,500	18,500	16,400	14,600	13,200	12,000	
HD-600	720,000	1,260,000	9.00	-	-	60,000	46,500	38,000	32,000	28,000	24,500	22,000	20,000	18,000	
G-850	1,020,000	1,800,000	9.00	-	-	85,000	66,600	54,500	48,000	42,000	37,000	32,000	29,000	26,000	

\* Inherent Overhang

#### Selecting the Proper Positioner



#### Rotational Torque Calculation

1. Determine the total weight of the work piece, including fixtures.
2. Calculate the load center of gravity distance (LOAD C.G.), in inches from the center of the table.
3. Multiply information from step 1 times the information in step 2 to determine required rotational-torque.
4. Compare the required rotational-torque with the rated rotational-torque from the above table.
5. Select a positioner with a rotational-torque rating equal to, or greater than, the required rotational-torque.

$$\text{Load X Distance} = \text{Rotational-Torque Requirement}$$

$$(\text{LB}) \times (\text{inches}) = (\text{LB-Inches})$$

#### Tilt Torque Calculation

1. Determine the total weight of the work piece, including fixtures.
2. Calculate the load center of gravity distance (LOAD C.G.) in inches from the table face, including fixtures.
3. Add inherent overhang distance (INH. O.H.) in inches to step 2.
4. Multiply information from step 1 times the sum of step 2 and step 3 to determine the required tilt-torque.
5. Compare the required tilt-torque with the rated tilt-torque from the above table.
6. Select a positioner with a tilt torque-rating equal to, or greater than, the required tilt-torque.

$$\text{Load X (Distance + Inherent Overhang)} = \text{Torque Rating}$$

$$(\text{LB}) \times ((\text{inches}) + (\text{INH. O.H.})) = (\text{LB-Inches})$$



## POSITIONING EQUIPMENT

### MANIPULATORS

Manipulators are singularly the most versatile pieces of equipment directly associated with automatic welding. They can be designed to duplicate the same procedure without variation as well as weld sequentially different procedures on the same weldment. A manipulator performs these functions on a distance and weight scale that man alone cannot achieve. It provides a consistency and accuracy by bringing the welding head to the weldment. Manipulators can be adapted to operate in pick and place applications as well as plate burning, painting and air carbon arc gouging.

Red-D-Arc rents and leases manipulators that can duplicate the functions of a highly-skilled welder... only better and with more consistency. Each manipulator can be customized for specific applications like simple straight-line or circumferential welding. The ram ends can be outfitted with small I.D. single- or multiple-arc automatic welding-heads for long seam and circumferential welding. Custom designs are available for long reach and heavy loads. All manipulators are available as pedestal mounted, motorized- or fixed-boom machines and can be mounted on a free-standing base or motorized travel-carriage for mobility.

MODELS AVAILABLE	VERTICAL TRAVEL	HORIZONTAL TRAVEL	MOTOR HP LIFT	RAM	BOLT CIRCLE BASE	X	Y	TRAVEL CAR
MA-44LD	4 ft.	4 ft.	1/4	1/4 or manual	---	97"	6' 6"	Standard
MA-66LD	6 ft.	6 ft.	1/4	1/4 or manual	---	121"	8' 6"	Standard
MA-99MD	9 ft.	9 ft.	1/2	1/2	13"	157"	12' 0"	Optional
MA-1212HD	12 ft.	12 ft.	3/4	3/4	22 1/8"	205"	16' 0"	Optional

### Benefits of Manipulators

- 360 degree mast rotation
- Speeds welding operations
- Cost efficient, easy to operate
- Eliminates the fatigue of hand operations
- Ideal for fabrication or maintenance applications
- Available as free-standing, self-supported fixture or mounted on a mobile carriage and track
- Controls include up/down, in/out travel switch, speed potentiometer and variable-speed carriage travel
- Welding controls include current, voltage, wire speed, start/stop weld, manual cross-seam adjustment, in/out adjustment of electrode and cylinder switch
- Precise x-ray quality welds free from undercut and slag inclusion
- Power source platform and all cables are optional - no special power source required
- Complete with reliable Red-D-Arc submerged arc equipment
- Optional travel cars with track, NA-3 automatic welding-heads, flux-recovery systems and DC600, AC-1200 and DC-1500 power sources are available with all our manipulators



### POSITIONING EQUIPMENT

#### TURNING ROLL SETS

Designed and constructed to provide safe and dependable operation. On rubber-tired models the rollers absorb shock during loading and cushion the load during welding. A steel overload-disc (on larger models) protects the rubber tires from excessive overloads. The final-drive gearcase is totally enclosed and constructed entirely of steel, and aluminum-bronze worm gears provide maximum strength and durability to the final drive.



#### Turning Roll Alignment

The best turning roll setup uses only one driver and one idler to support the work. The two units are easier to align than three or more sets of drivers and idlers. When setting up the rolls, the wheel axle centerlines must be parallel to the centerline of the workpiece and rolls must be set on a flat, level floor. If any of these conditions are neglected, a condition commonly known as "end creep" will result where the workpiece threads and spirals as it rotates. End creep requires constant adjustments of the welding arc to track the seam as it rotates. Assuming the rolls are located on a level floor so that the roll bases are on the same plane, the quickest way to check alignment is to measure the diagonal distance between the four corners of the setup to square them with each other. Each diagonal measurement must be of equal length for the rolls to be square. If roll alignment is accurate and end creep is still experienced during rotation, then the work, itself, might not be straight.

#### Six Basic Rules to Follow When Using Turning Rolls

1. Drivers and idlers should all be of the same make, style and wheel diameter.
2. Install drivers and idlers on a smooth, level hard floor and preferably on a flat steel plate.
3. Obtain the best possible alignment during setup.
4. Do not anchor the driver and idler to the floor. Let them "float" into best alignment.
5. Use as few idlers as possible to support the load. Multiple idlers absorb power.
6. Always use the closest wheel-spacing possible that will safely handle the load and provide sufficient traction.

MODELS AVAILABLE	LOAD - CARRYING CAPACITY (SET)	LOAD -TURNING CAPACITY (DRIVE ROLL)	DIAMETER RANGE	ROLLER SPEED	MOTOR HP	TRACTIVE PULL	ROLLER TYPE
TRS-1500 *	3/4 ton (1,500 lb)	3/4 ton (1,500 lb)					
TDRA-3	3 ton (6,000 lb)	4.5 ton (9,000 lb)	6" to 5'	1.4 - 45 IPM	1/4	1,250	rubber
TDRA-5	5 ton (10,000 lb)	7.5 ton (15,000 lb)	6" to 12'	1.4 - 45 IPM	1/2	2,100	rubber
TDRA-10	10 ton (20,000 lb)	15 ton (30,000 lb)	6" to 12'	1.4 - 45 IPM	3/4	3,400	rubber
TDRA-20	20 ton (40,000 lb)	30 ton (60,000 lb)	6" to 14'	1.9 - 57 IPM	1.5	5,500	rubber
TDRA-60	60 ton (120,000 lb)	90 ton (180,000 lb)	8" to 15'	1.5 - 43 IPM	3	14,200	rubber
TDRA-120	120 ton (240,000 lb)	180 ton (360,000 lb)	8" to 16'	1.4 - 42 IPM	5	24,300	rubber
TDSA-200	200 ton (400,000 lb)	300 ton (600,000 lb)	8" to 15'	1.4 - 42 IPM	5	25,300	steel
250 Ton Model *	250 ton (500,000 lb)	375 ton (750,000 lb)					
300 Ton Model *	300 ton (600,000 lb)	450 ton (900,000 lb)					
400 Ton Model *	400 ton (800,000 lb)	600 ton (1,200,000 lb)					

\* Call for Specifications

### Calculating Turning Roll Capacity Requirements

#### Rated Load-CARRYING Capacity of Turning Rolls

Since the load CARRIED by the drive roll and idler roll (in a set) is split equally between both rolls, the actual load-CARRYING capacity of each roll is equal to one half the combined load-CARRYING capacity of the set. For example, in a 20-ton drive-roll/idler-roll set, each roll has a rated load-CARRYING capacity of 10 tons, but together they have a COMBINED load-CARRYING capacity of 20 tons.

#### Rated Load-TURNING Capacity of Turning Rolls

A drive roll has a load-TURNING capacity of one and one half times its rated load-CARRYING capacity while idler rolls have a load-TURNING capacity of zero. This means that the actual load-CARRYING capacity of a drive-roll/idler-roll set can be increased either by adding one or more idler rolls (of the same capacity) or by replacing the idler roll in the set with a larger load-CARRYING capacity idler roll.

For example, a 20-ton drive roll and two 20-ton idler rolls combined as a set have a total load-CARRYING capacity of 30 tons (1/2 of 20 tons multiplied by 3) and a load-TURNING capacity of 30 tons (20 tons multiplied by 1.5). This means that a load of 30 tons can be CARRIED (supported) and ROTATED by this combination of drive and idler rolls. This information is helpful for calculating load-turning/carrying capacities when the length of a tank to be supported is such that an additional idler roll is necessary to prevent deflection of the tank as a result of its own weight.

### Generators...

POWERPRO 25 GENERATOR

POWERPRO 45 GENERATOR

POWERPRO 65 GENERATOR

POWERPRO 125 GENERATOR

POWERPRO 150 GENERATOR

70SSJ SuperSilent GENERATOR

125USJ UltraSilent GENERATOR

180SSV SuperSilent GENERATOR

220SSV SuperSilent GENERATOR

300SSK SuperSilent GENERATOR

400SSV SuperSilent GENERATOR

GENERATOR ACCESSORIES

ELECTRIC POWER DISTRIBUTION PANELS

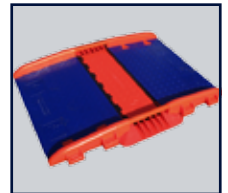


### GENERATORS - MMD EQUIPMENT

MODEL	POWERPRO 25	POWERPRO 45	POWERPRO 65	POWERPRO 125	POWERPRO 150	
<b>GENERATOR TYPE</b>	Taiyo					
<b>No. OF POLES</b>	4-Pole					
<b>EXCITATION</b>	Brushless with AVR					
<b>STANDBY OUTPUT</b>	<b>THREE-PHASE</b>	22 kW (27.5 kVA)	38.8 kW (48.5 kVA)	53.6 kW (67 kVA)	110 kW (137 kVA)	132 kW (165 kVA)
	<b>SINGLE-PHASE</b>	15.8 kW (15.8 kVA)	28 kW (28 kVA)	39 kW (39 kVA)	77 kW (77 kVA)	95 kW (95 kVA)
<b>PRIME OUTPUT</b>	<b>THREE-PHASE</b>	20 kW (25 kVA)	36 kW (45 kVA)	50 kW (63 kVA)	100 kW (125 kVA)	120 kW (150 kVA)
	<b>SINGLE-PHASE</b>	14.4 kW (14.4 kVA)	26 kW (26 kVA)	36.5 kW (36.5 kVA)	72 kW (72 kVA)	87 kW (87 kVA)
<b>GENERATOR RPM</b>	1800					
<b>VOLTAGE</b>	<b>THREE-PHASE</b>	208, 220, 240, 416, 440, 480 - Switchable				
	<b>SINGLE-PHASE</b>	120, 127, 139, 240, 254, 277 - Switchable				
<b>ARMATURE CONNECTION</b>	Star with Neutral / Zig Zag					
<b>VOLTAGE REGULATION (No Load to Full Load)</b>	0.5%					
<b>FREQUENCY</b>	60 Hz					
<b>POWER FACTOR</b>	0.8					
<b>INSULATION</b>	Class F					
<b>SOUND LEVEL dB (A) at 23 Feet (No Load)</b>	62	65	63	65	68	
<b>DIESEL ENGINE MAKE/MODEL</b>	Isuzu 4LE1	Isuzu 4JJ1T	Isuzu 4JJ1X	Isuzu 4HK1X	Isuzu 6HK1X	
<b>BATTERY/STARTING SYSTEM DESIGN</b>	12 V x1 12 V System 4-Cycle, 4 Cylinder				12 V x2 24 V System 4-Cycle, 6 Cylinder	
	Water Cooled					
	Swirl Chambers	Direct Injection				
	Not Turbocharged	Turbocharged				
	No Intercooler Interim Tier 4		Intercooler Tier 3			
<b>EPA EMISSION LEVEL</b>						
<b>HP AT RATED SPEED</b>	31.5	57	97.8	152	190.4	
<b>FUEL TANK CAPACITY GAL (L)</b>	50 (189)	106 (401)	106 (401)	198 (749)	215 (814)	
<b>FUEL CONSUMPTION</b>						
<b>at Full Load Gph (Lph)</b>	1.7 (6.4)	2.6 (9.8)	3.6 (13.6)	7.2 (27.3)	8.6 (32.6)	
<b>at 3/4 Load Gph (Lph)</b>	1.3 (4.9)	2.1 (7.9)	2.8 (10.6)	5.8 (22.0)	6.5 (24.6)	
<b>at 1/2 Load Gph (Lph)</b>	1.0 (3.8)	1.5 (5.7)	2.0 (7.6)	4.0 (15.1)	4.7 (17.8)	
<b>RUN TIME AT FULL LOAD HOURS</b>	29.4	40.8	29.4	27.5	25.0	
<b>COOLANT CAPACITY GAL (L)</b>	1.6 (6.0)	2.7 (10.1)	2.9 (11.0)	5.7 (21.5)	6.7 (25.5)	
<b>OIL CAPACITY GAL (L)</b>	2.1 (8.0)	4.0 (15.0)	4.0 (15.0)	5.4 (20.5)	10.0 (38.0)	
<b>SIZE</b>						
<b>L x W x H inches</b>	67 x 28 x 50	82 x 39 x 61	82 x 39 x 61	100 x 46 x 72	126 x 46 x 72	
<b>(cm)</b>	(170 x 71 x 127)	(208 x 99 x 155)	(208 x 99 x 155)	(254 x 117 x 183)	(320 x 117 x 183)	
<b>APPROX. NET WT. DRY LB (KG)</b>	1587 (720)	2734 (1240)	2875 (1304)	4729 (2145)	6007 (2725)	
<b>AMP - PRIME POWER RATING</b>						
<b>SINGLE PHASE 120 V</b>	60 A (L1-N & L3-N)	108 A (L1-N & L3-N)	152 A (L1-N & L3-N)	300 A (L1-N & L3-N)	361 A (L1-N & L3-N)	
<b>SINGLE PHASE 240 V</b>	60 A	108 A	152 A	300 A	361 A	
<b>THREE PHASE 208 V</b>	65 A	119 A	167 A	328 A	394 A	
<b>THREE PHASE 240 V</b>	60 A	108 A	152 A	300 A	361 A	
<b>THREE PHASE 480 V</b>	30 A	54 A	76 A	150 A	180 A	
<b>TRAILERS</b>						
<b>L x W x H inches</b>	119 x 54 x 62	144 x 70 x 73	144 x 70 x 73	196 x 79 x 85	196 x 79 x 85	
<b>(cm)</b>	(302 x 137 x 157)	(366 x 178 x 185)	(366 x 178 x 185)	(498 x 201 x 216)	(498 x 201 x 216)	
<b>APPROX. NET WT. DRY LB (KG)</b>	625 (284)	1225 (556)	1225 (556)	1650 (748)	1650 (748)	
<b>GVW RATING LB (KG)</b>	2950 (1338)	5500 (2494)	5500 (2494)	9900 (4491)	9900 (4491)	

### GENERATOR ACCESSORIES

Red-D-Arc carries a full line of generator accessories, including spill berms, cable management, distribution panels, cables, connectors and spider boxes. See page 46-48 for more information on our distribution panels.



### GENERATORS - MQ POWER



MODEL	70SSJ	125USJ	180SSV	220SSV	300SSK	400SSV
<b>GENERATOR</b>						
DESIGN	Revolving Field, Self-Ventilated, Drip-Proof, Single Bearing					
No. OF POLES	4 Poles					
EXCITATION	Brushless with AVR					
STANDBY OUTPUT	61 kW (77 kVA)	110 kW (137 kVA)	158 kW (198 kVA)	194 kW (242 kVA)	264 kW (330 kVA)	352 kW (440 kVA)
PRIME OUTPUT	56 kW (70 kVA)	100 kW (125 kVA)	144 kW (180 kVA)	176 kW (220 kVA)	240 kW (300 kVA)	320 kW (400 kVA)
GENERATOR RPM	1800					
VOLTAGE - THREE-PHASE	208, 220, 240, 416, 440, 480					
VOLTAGE - SINGLE-PHASE	120, 127, 139, 240, 254, 277					
ARMATURE CONNECTION	Star with Neutral / Zigzag			Star with Neutral		
VOLTAGE REGULATION (No Load to Full Load)	1.5%	1%				
FREQUENCY	60 Hz (can be set for 50 Hz with reduced output)					
POWER FACTOR	0.8					
INSULATION	Class F					
SOUND LEVEL dB (A) (Full Load at 23 Feet)	67	62	70	72	71	72
<b>DIESEL ENGINE</b>						
MAKE/MODEL	John Deere 4045TF150	John Deere 6068TF275	Volvo TAD722GE	Volvo TAD741GE	Komatsu SAA6D125E-2	Volvo TAD1241GE
STARTING SYSTEM	Electric Starter					
DESIGN	4-Stroke Water Cooled Direct Injection Turbocharged					
	No Intercooler			Air to Air Intercooler		
DISPLACEMENT	4500 cc	6800 cc	7150 cc	7280 cc	11040 cc	12130 cc
NO. OF CYLINDERS	4	6	6	6	6	6
BORE X STROKE (MM)	106 x 127	106 x 127	108 x 130	107 x 135	125 x 150	131 x 150
GROSS ENGINE POWER OUTPUT	99	165	296	316	431	527
HP AT RATED SPEED	90	150	218	273	354	468
FUEL TANK CAPACITY GAL (L)	40 (150)	169 (640)	79 (300)	100 (380)	129 (490)	129 (490)
FUEL CONSUMPTION						
at Full Load Gph (Lph)	3.9 (14.8)	7.7 (29.0)	11.2 (42.2)	12.6 (47.8)	16.7 (63.2)	20.6 (78.1)
at 3/4 Load Gph (Lph)	3.1 (11.7)	5.8 (21.9)	8.5 (32.0)	9.7 (36.7)	12.5 (47.6)	15.4 (58.3)
at 1/2 Load Gph (Lph)	2.3 (8.7)	3.8 (14.5)	5.9 (22.4)	7.0 (26.5)	8.5 (32.1)	10.8 (41.0)
at 1/4 Load Gph (Lph)	1.8 (6.8)	2.5 (9.3)	3.7 (14.0)	4.3 (16.2)	5.0 (19.0)	6.3 (23.7)
COOLANT CAPACITY GAL (L)	5.9 (22.3)	4.43 (16.8)	7.2 (27.3)	9.8 (37.0)	9.8 (37.0)	11.6 (44.0)
OIL CAPACITY GAL (L)	3.4 (13.0)	5.25 (19.9)	9.0 (34.0)	7.7 (29.0)	16.4 (62.0)	9.2 (35.0)
BATTERY	12V 72Ah x1	12V 128Ah x1	12V 150Ah x 2 24V System	12V 128Ah x 2 24V System	12V 150Ah x 2 24V System	12V 150Ah x 2 24V System
<b>SIZE</b>						
L x W x H inches	94 x 35 x 55	120 x 49 x 73	140 x 47 x 71	144 x 52 x 69	153 x 55 x 71	166 x 56 x 83
(cm)	(240 x 90 x 140)	(305 x 124 x 186)	(355 x 120 x 180)	(365 x 130 x 175)	(389 x 140 x 180)	(420 x 140 x 210)
APPROX. NET WT. DRY LB (KG)	3219 (1460)	6031 (2735)	6515 (2955)	7696 (3490)	9415 (4270)	11136 (5050)
<b>AMP</b>						
SINGLE-PHASE 120 V	155.5 A (4 wire) 168 A x 2 (zigzag)	277.8 A (4 wire) 301 A x 2 (zigzag)	400.0 A (4 wire)	488.9 A (4 wire)	667.7 A (4 wire)	888.9 A (4 wire)
SINGLE-PHASE 240 V	77.8 A (4 wire) 168 A (zigzag)	139.9 A (4 wire) 301 A (zigzag)	200.0 A (4 wire)	244.4 A (4 wire)	333.3 A (4 wire)	444.4 A (4 wire)
THREE-PHASE 240 V	168 A	300 A	433 A	529 A	722 A	962 A
THREE-PHASE 480 V	84 A	150 A	216 A	265 A	361 A	481 A

### ELECTRIC POWER DISTRIBUTION PANELS

#### DP4X100 Distribution Panel



**Rugged, Non-Conductive Enclosures eliminate the risk of energized parts**  
**NEMA Class 3R Rain Tight In-Use Construction**  
**UL and CSA Approved**  
**Heavy Duty Stainless Steel Frames**

Power Distribution Panels designed to withstand the harshest environments. Panels are easy to service with features that ensure quality, durability, and safety.

Input Power: 400 A, 480/277 V, 4-Wire, Camlock  
Output Power: 4 - 100 A, 480/277 V, 3-Pole, 4-Wire, Pin and Sleeve  
Breakers: 4 - 100 A, 3-Pole, Moulded Case Circuit Breaker  
Weight: 170 lb (77.1 kg)  
H: 36.75" (933 mm) W: 19.75" (502 mm) L: 23.75" (603 mm)

#### DP6X60 Distribution Panel



**Rugged, Non-Conductive Enclosures eliminate the risk of energized parts**  
**NEMA Class 3R Rain Tight In-Use Construction**  
**UL and CSA Approved**  
**Heavy Duty Stainless Steel Frames**

Power Distribution Panels designed to withstand the harshest environments. Panels are easy to service with features that ensure quality, durability, and safety.

Input Power: 400 A, 480/277 V, 4-Wire, Camlock  
Output Power: 6 - 60 A, 480/277 V, 3-Pole, 4-Wire, Pin and Sleeve  
Breakers: 6 - 60 A, 3-Pole, Moulded Case Circuit Breaker  
Weight: 170 lb (77.1 kg)  
H: 36.75" (933 mm) W: 19.75" (502 mm) L: 23.75" (603 mm)

### ELECTRIC POWER DISTRIBUTION PANELS

#### DP75 Distribution Panel



The DP75 Powermate is a fully-portable, electric panel designed for the distribution of 120 volt and 240 volt, single-phase electrical power on indoor and outdoor jobsites. Primary voltage can be either 600 or 480 volt, single-phase power which is stepped-down to 120/240 volt single-phase secondary power via a 30 kVA transformer. Ten 20 amp, 120 volt GFCI duplex receptacles are provided for the operation of hand tools, lighting fixtures and other electrical equipment. In addition, there are two 50 amp, 120/240 volt single-phase receptacles (protected by GFCI breakers), for the operation of larger power equipment, as well as for supplying power to up to two SB80 Splitter Boxes for difficult to access locations on the jobsite. The DP75 is CSA certified to NEMA 3 Specifications, and is constructed from 14 gauge, 304 stainless steel for enhanced durability and weather protection.

- 1 - 60 amp, 60 hertz, 1 phase, indoor/outdoor, 480/600 volt primary, 120/240 volt secondary, distribution transformer
- 1 - 2 pole, 60 amp, 600 volt, Square D FAL26060 main circuit breaker
- 10 - 2 pole, 3 wire, 120 volt, 20 amp, Hubbell GF20LA T-slot GFCI duplex receptacles with weatherproof covers
- 10 - 1 pole, 120 volt, 20 amp, Square D QOV120 circuit breakers
- 2 - 3 pole, 4 wire, 120/240 volt, 50 amp, Hubbell CS6369 twist-lock receptacles (uses Hubbell CS6365C plugs)
- 2 - 2 pole, 120/240 volt, 50 amp, Square D QO250GFI GFCI secondary circuit breakers

Weight: 800 lb (362.9 kg)

Dimensions (including protective frame):

H: 41.0" (1041 mm) W: 26.5" (673 mm) L: 53.0" (1346 mm)

#### DP225 Distribution Panel



The DP225 is a portable electric panel designed to distribute three-phase power from eight 60 amp APJ-type power receptacles with eight 50 amp circuit breakers. Primary input voltage can be either 240, 380, 480 or 600 volts. The main breaker is 225 amp, 600 volt. Suitable for both indoor and outdoor use. The DP225 is CSA certified and NEMA Class 3 rated for outdoor use, and is constructed from 14 gauge, 304 stainless steel for enhanced durability and weather protection.

- 1 - 3 pole, 225 amp, 480/600 volt, Cutler Hammer JD3250F main circuit breaker
- 8 - 3 pole, 4 pin, 60 amp, 480/600 volt, Crouse Hinds AR642 power receptacles
- 8 - 3 pole, 50 amp, 480/600 volt, Cutler Hammer FDB3050 secondary circuit breakers
- 1 - 2 pole, 25 amp, 480/600 volt, Cutler Hammer FDB2025 secondary circuit breaker

Weight: 225 lb (102.1 kg)

H: 34.0" (864 mm) W: 21.0" (533 mm) L: 43.0" (1092 mm)

### ELECTRIC POWER DISTRIBUTION PANELS

#### DP25 Step-Down Panel



The DP25 is a portable electric panel designed to step-down 480 or 600 volt electric power and distribute 120 volt power via six 20 amp GFCI duplex receptacles and 240 volt power via two 30 amp GFCI receptacles. All receptacles have waterproof covers. There is a 10 kVA transformer, suitable for both indoor and outdoor use. Primary power protection is via a 20 amp, 600 volt breaker. The DP25 is CSA certified and NEMA Class 3 specified for outdoor use, and is constructed from 14 gauge, 304 stainless steel for enhanced durability and weather protection.

- 1 - 10 kVA, 60 hertz, 480/600 volt primary, 120/240 secondary, Marcus RES10Q2 distribution transformer
- 1 - 2 pole, 20 amp, 600 volt, Square D FAL26020 main circuit breaker
- 6 - 2 pole, 3 wire, 120 volt, 20 amp, Hubbell GF20LA T-slot GFCI duplex receptacles with weatherproof covers
- 6 - 1 pole, 120 volt, 20 amp, Square D QOV120 secondary circuit breakers
- 2 - 30 amp, 120/240 volt, single outlet, Hubbell 2710ACN twist-lock receptacles
- 2 - 2 pole, 120/240 volt, 30 amp, Square D QO230 secondary circuit breakers

Weight: 350.0 lb (158.8 kg)

H: 19.0" (483 mm) W: 24.0" (610 mm) L: 22.0" (559 mm)

#### SB80 Splitter Box



Provides remote electric power distribution in space restricted locations such as the inside of vessels or other hard to access work areas and includes four 120 VAC, 15/20 Amp, duplex receptacles with four 20 amp GFCI breakers. The SB80 Splitter Box plugs into a 240 VAC twist-lock receptacle on larger voltage step-down panels.

Available with heavy duty extension cable (not shown) which provides power for portable operation of power tools up to 100' away from the primary power source.

Stainless Steel Enclosure

CSA certified, NEMA Class 3R specifications

- 1 - 3 pole, 4 wire, 125/250 volt, 50 amp plug with 10' (3 m) cable
- 4 - 120 volt, 15/20 amp, duplex receptacles
- 4 - 120 volt, 20 amp, GFCI circuit breakers

Weight: 39.0 lb (17.7 kg)

H: 8.0" (203 mm) W: 15.0" (381 mm) L: 13.0" (330 mm)



### Specialty Equipment...

PLASMA CUTTERS

PORTABLE SMOKE EXTRACTORS

ELECTRODE OVENS

FLUX HOLDING OVENS

OXY-FUEL CUTTING EQUIPMENT

AIR CARBON ARC GOUGING EQUIPMENT

INDUCTION HEATING EQUIPMENT

DRY ICE BLASTING EQUIPMENT

PIPE BEVELERS

WELDER CERTIFICATION TRAILERS

COMPRESSED GAS CYLINDER CAGES



### PLASMA CUTTERS (PAC)

#### VIPER Plasma Cutter

CC DC



**Production Cutting Capacity 1/2" at 28 IPM**  
**Recommended Cutting Capacity 3/4" at 13 IPM**  
**Maximum Cutting Capacity 1" at 8 IPM**

Unmatched cutting speeds, low dross levels and unparalleled ease of use. Comes with the patented PCT80 hand plasma torch with 25' leads which uses only 3 consumable parts for easy maintenance, and a quick disconnect for fast and easy torch removal. Includes a valet-style undercarriage for torch storage and the ultimate in power source portability.

#### Specifications

Rated Output: 55 A at 50% duty cycle, 40 A at 100% duty cycle  
 Pilot Current: 18 A Current Range: 25 - 60 A  
 Air Pressure Required: 70 PSI Flow Rate: 360 CFH  
 Input Voltage: K1580-5 208V/230V/460V/1/3Ph/50/60Hz  
 K1580-6 460V/575V/3Ph/50/60Hz  
 Weight including undercarriage: 105 lb (47.6 kg)  
 H: 19.5" (495 mm) W: 13.25" (337 mm) L: 26" (661 mm)

#### PCT80 Torch Consumable Parts

(PCT80 hand torch is used with Viper and Python plasma cutters)

Cutting Electrode	KP2063-1B1
Vortech Nozzle (.043)	KP2062-2B1
Vortech Gouging Nozzle (.068)	KP2062-4B1
Shield Cup	KP2064-1
Drag Cup	KP2065-1

#### PYTHON Plasma Cutter

CC DC



**Production Cutting Capacity 3/4" at 18 IPM**  
**Recommended Cutting Capacity 1" at 11 IPM**  
**Maximum Cutting Capacity 1 1/4" at 7 IPM**

Has the same features as the Viper plasma cutter with 80 amps of power for world class cutting performance up to 1" in only a 95 lb package. The patent-pending PCT80 hand plasma torch is included and a machine torch and robotic torch are also available. CNC/Robotic interface is standard. The standard PCT80 hand torch uses only 3 consumable parts and is also used with the Viper plasma cutter.

#### Specifications

Rated Output: 80 A at 60% duty cycle, 65 A at 100% duty cycle  
 Pilot Current: 18 A Current Range: 35 - 85 A  
 Air Pressure Required: 70 PSI Flow Rate: 400 CFH  
 Input Voltage: K1581-6 208V/230V/460V/1/3Ph/50/60Hz  
 K1581-5 460V/575V/3Ph/50/60Hz  
 Weight including undercarriage: 145 lb (65.8 kg)  
 H: 23.5" (597 mm) W: 17" (432 mm) L: 32" (813 mm)

#### Options

Machine Torch, w/25' leads	K1571-3
Robotic Torch, w/25' leads	K1571-5
Combination Circle Cutting Kit	K1625-1
Valet-Style Undercarriage	K1838-1

### PLASMA CUTTERS (PAC)

VIPER 30

CC DC



**Handheld plasma system for metal cutting**

**For Cutting 1/4" (6 mm) Recommended, at speeds > 20 IPM (500 mm/min)**

**For Cutting 3/8" (10 mm) Maximum, at speeds of 10 IPM (250 mm/min)**

**Capacity for Severance 1/2" (12 mm) at speeds of 5 IPM (125 mm/min)**

The small size and light weight of this unit provides excellent portability, and it can be easily carried using the included shoulder strap. Boost Conditioner compensates for input voltage variations, providing improved performance on low-line voltage, on motor generators and on fluctuating input power. Plug adapters provide improved versatility from the shop, to home, to the field. The tapered 75° torch provides excellent arc visibility, control, and access to hard-to-reach applications.

**Specifications**

Input Voltage: 120 - 230 V, 1 Phase, 50/60 Hz

Input Current: 26 - 13.5 A, 120 - 230 V at 2.49 kW output

Output Voltage: 83 VDC      Output Current: 15 to 30 A

Duty Cycle: 30 A at 50%, 24 A at 75%, 21 A at 100%, 83 V

Maximum OCV: 240 VDC

Weight (including 15' (4.5 m) torch): 20.7 lb (9.4 kg)

H: 12.0" (305 mm) W: 6.6" (168 mm) L: 14.0" (356 mm) (with handle)

Gas Supply:                      Clean, dry, oil-free air or nitrogen

Flow Rate:                        240 scfh; 4 scfm (113 l/min)

Flow Pressure:                  80 psi (5.5 bar)

Torch:                                T30v hand torch

VIPER 45

CC DC



**For hand cutting, gouging, and mechanized cutting**

**For Cutting 1/2" (12 mm) Recommended, at speeds > 20 IPM (500 mm/min)**

**For Cutting 3/4" (19 mm) Maximum, at speeds of 10 IPM (250 mm/min)**

**Capacity for Mechanized Pierce (with height control) 1/2" (12 mm) Maximum**

**Capacity for Severance 1" (25 mm) at speeds of 5 IPM (125 mm/min)**

Patented drag-cutting technology makes it easy to use, even for first-time operators. Conical Flow increases arc energy density for superior cut quality with little dross. Boost Conditioner compensates for input voltage variations on 200 - 240 V lines, providing improved performance on low-line voltage, on motor generators and on fluctuating input power. Dual-angle torch design extends nozzle life and lowers operating costs.

**Specifications**

Input Voltage: 200 - 240 V, 1 Phase, 50/60 Hz

Input Current: 34 - 28 A, 200 - 230 V at 5.95 kW output

Output Voltage: 132 VDC      Output Current: 20 to 45 A

Duty Cycle: 45 A at 50%, 41 A at 60%, 32 A at 100%, 132 V

Maximum OCV: 275 VDC

Weight (including 20' (6.1 m) torch): 37 lb (16.8 kg)

H: 13.7" (348 mm) W: 6.75" (172 mm) L: 16.75" (426 mm) (with handle)

Gas Supply:                      Clean, dry, oil-free air or nitrogen

Flow Rate (Cutting):            360 scfh; 6 scfm (170 l/min)

Flow Pressure:                  80 psi (5.5 bar)

Torches:                            T45v hand torch, T45m machine torch

### PLASMA CUTTERS (PAC)

#### VIPER 65

CC DC



**For hand cutting, gouging, and mechanized cutting**  
**For Cutting 3/4" (19 mm) Recommended, at speeds > 20 IPM (500 mm/min)**  
**For Cutting 1" (25 mm) Maximum, at speeds of 10 IPM (250 mm/min)**  
**Capacity for Mechanized Pierce (with height control) 5/8" (16 mm) Maximum**  
**Capacity for Severance 1 1/4" (32 mm) at speeds of 5 IPM (125mm/min)**

Patent-pending shield reduces dross buildup and enables smoother drag cutting for a better cut. Conical Flow nozzle increases arc energy density for superior cut quality with little dross. Boost Conditioner circuit improves performance on low-line voltage, on motor generators and on fluctuating input power. Smart Sense technology automatically adjusts the gas pressure according to cutting mode and torch lead length for optimal performance.

#### Specifications

Input Voltage: 200 - 480 V, 1 Phase or 200 - 600 V, 3 Phase, 50/60 Hz  
 Input Current: 52 - 22 A, 200 - 480 V 1 Phase at 9.0 kW output  
 32 - 13 A, 200 - 600 V 3 Phase at 9.0 kW output  
 Output Voltage: 139 VDC      Output Current: 20 to 65 A  
 Duty Cycle: 46 A at 100%, 230-600 V, 1 or 3 Phase  
 Maximum OCV: 295 VDC  
 Weight (including 25' (7.6 m) torch): 64 lb (29.0 kg)  
 H: 17.9" (455 mm) W: 9.2" (234 mm) L: 19.7" (500 mm) (with handles)

Gas Supply:                      Clean, dry, oil-free air or nitrogen  
 Flow Rate (Cutting):        400 scfh; 6.7 scfm (189 l/min)  
 Flow Pressure:                85 psi (5.9 bar)  
 Torches:                         H65 or H65s hand torch, M65 or M65m machine torch

#### PYTHON 85

CC DC



**Handheld or mechanized plasma system for cutting and gouging metal**  
**For Cutting 1" (25 mm) Recommended, at speeds > 20 IPM (500 mm/min)**  
**For Cutting 1 1/4" (32 mm) Maximum, at speeds of 10 IPM (250 mm/min)**  
**Capacity for Mechanized Pierce (with height control) 3/4" (19 mm) Maximum**  
**Capacity for Severance 1 1/2" (38 mm) at speeds of 5 IPM (125mm/min)**

Smart Sense technology automatically adjusts the gas pressure according to cutting mode and torch lead length for optimal performance. Boost Conditioner circuit improves performance on low-line voltage, on motor generators and on fluctuating input power. FastConnect torches, a CNC interface, and four work lead styles increase its versatility for handheld and mechanized use.

#### Specifications

Input Voltage: 200 - 480 V, 1 Phase or 200 - 600 V, 3 Phase, 50/60 Hz  
 Input Current, Single-Phase: 70 - 29 A, 200 - 480 V at 12.2 kW output  
 Input Current, Three-Phase: 42 - 17 A, 200 - 600 V at 12.2 kW output  
 Output Voltage: 143 VDC      Output Current: 25 to 85 A  
 Duty Cycle: 66 A at 100%, 230-600 V, 1 or 3 Phase  
 Maximum OCV: 305 VDC  
 Weight (including 25' (7.6 m) torch): 71 lb (32.2 kg)  
 H: 17.9" (455 mm) W: 9.2" (234 mm) L: 19.7" (500 mm) (with handles)

Gas Supply:                      Clean, dry, oil-free air or nitrogen  
 Flow Rate (Cutting):        400 scfh; 6.7 scfm (189 l/min)  
 Flow Pressure:                85 psi (5.9 bar)  
 Torches:                         H85 or H85s hand torch, M85 or M85m machine torch

### PLASMA CUTTERS (PAC)

#### Powermax 1650

CC DC



Handheld or mechanized plasma system for cutting and gouging metal  
**For Cutting 1 1/4" (32 mm) Recommended, at speeds > 20 IPM (500 mm/min)**  
**For Cutting 1 1/2" (38 mm) Maximum, at speeds of 10 IPM (250 mm/min)**  
**Capacity for Mechanized Pierce (with height control) 7/8" (22 mm) Maximum**  
**Capacity for Severance 1 3/4" (44 mm/min) at speeds of 5 IPM (125mm/min)**

Auto-voltage automatically adapts to any incoming power from 200 V to 600 V, 3 phase. Boost Conditioner compensates for input voltage variations, providing improved performance on low-line voltage, on motor generators and on fluctuating input power. Reliability-focused design improves uptime and maximizes return on investment.

#### Specifications

Input Voltage: 200 - 600 V, 3 Phase, 50/60 Hz  
 Input Current: 53 - 21 A, 200 - 600 V 3 Phase at 16 kW output  
 Output Voltage: 160 VDC      Output Current: 30 to 100 A  
 Output for 100% Duty Cycle: 80 A @ 200-208 V, 85 A @ 230-240 V,  
 90 A @ 400-600 V

Maximum OCV: 300 VDC

Weight (including 25' (7.6 m) torch): 141 lb (64.0 kg)  
 H: 25.8" (655 mm) W: 16.8" (427 mm) L: 26.4" (671 mm) (with handle)

Gas Supply:      Clean, dry, oil-free air or nitrogen  
 Flow Rate:      550 scfh; 9.2 scfm (260 l/min) @ 90 psi (6.2 bar)  
 Flow Pressure: 75 psi (5.1 bar) with 25' leads, 80 psi (5.4 bar) with 50' leads  
 Torches:      T100 hand torch, T100M-2 machine torch

#### MAX200 Plasma Cutter

CC DC



#### High Capacity, Dual Gas Plasma Cutting System

**For Cutting Gauge to 2" (50 mm) Metals**  
**Maximum Mild Steel Cutting Capacity 2" (50 mm) at 6 IPM (150 mm/min)**  
**Recommended Maximum Mechanized Production Capacity 1" (25 mm)**

The dual gas system (plasma and shielding gas) allows you to run on Air/Air, O<sub>2</sub>/Air, N<sub>2</sub>/Air, N<sub>2</sub>/CO<sub>2</sub>, Ar-H<sub>2</sub>/N<sub>2</sub> or other combinations for optimal results on all metals and conditions. The water cooled torch provides maximum cooling and long consumable life.

#### Specifications

Input Voltage: 240 - 480 V, 3 Phase, 60 Hz  
 Input Current: 90 - 45A, 240 - 480 V at 30 kW output  
 Output Voltage: 150 VDC      Output Current: 40 to 200 A  
 Duty Cycle: 100%      Maximum OCV: 280 VDC  
 Weight: 780 lb (350 kg)  
 H: 43" (1090 mm) W: 28" (710 mm) L: 41" (1040 mm)

#### Gas Supply:

Plasma Gas	Air, N <sub>2</sub> , O <sub>2</sub> , Ar-H <sub>2</sub>
Plasma Flow (Air)	66 scfh (31 l/min)
Plasma Pressure	120 psig (8.3 bar)
Shield Gas	Air, N <sub>2</sub> , CO <sub>2</sub>
Shield Gas Flow (Air)	280 scfh (132 l/min)
Shield Gas Pressure	90 psig (6.2 bar)

### PORTABLE SMOKE EXTRACTORS

#### SE1602W Smoke Extractor



**Two Operating Speeds**  
**Available with HEPA Filter**  
**Internal Spark Trap for Extended Filter Life**  
**Stainless Steel Construction**

A lightweight, suitcase-sized air cleaner that is very easy to transport around the jobsite. Welding fume is trapped at the source, removing airborne contaminants before they enter the operator breathing-area. Clean air is recycled back into the work area, reducing heating and cooling costs compared to air-extraction-type systems. Dual bypass motors. Includes 15' hose with magnetic locator.

#### Specifications

Air Flow: 160 cfm (270 m<sup>3</sup>/hr)  
Filter Efficiency: 99.2%  
Maximum Vacuum: 80" WG (21 kPa)  
Input Voltage: 120 VAC, 50/60 Hz      Amperage: 13 A  
Hose Length: 15' (4.6 m)  
Hose I.D.: 1.75" (45 mm)  
Weight: 42 lb (19 kg)  
H: 14.5" (368 mm) W: 9.25" (235 mm) L: 26.5" (673 mm)

#### SE1400 Smoke Extractor



**Ideal for portable or fixed use**  
**For welding, dust, and oil mist applications**  
**Snorkvac 10' (3 m) Fume Extractor Snorkel Arm**  
**Extractor Arm is externally supported to minimize air flow restriction**

This unit comes with either a high efficient washable filter or an optional throwaway paper filter - and with activated carbon in both doors. Precoat powder is used with the washable filter to maximize filtration efficiency and prolong the life of the filter. It can be cleaned with either an air hose or pressure washer. The fume extraction arm is externally supported to minimize restriction to the air flow, and makes arm adjustments or hose replacement much easier than with an internally supported arm. The hood has an air diverter in it to increase the face velocity thus increasing the capture distance, and providing uniform air flow. Unit is manufactured of 14 gauge cold rolled steel with a baked-on powder coat finish, and comes with two 5" fixed, and two 5" rotating soft rubber casters with a brake.

#### Specifications

Air Flow (at the hood): 1400 cfm (2379 m<sup>3</sup>/hr)  
Input Voltage: 120 VAC, 50/60 Hz  
Amperage: 17.5 A at 1400 cfm or 14 A at 1050 cfm  
Motor: 1.5 HP, 3450 rpm, direct drive, TEFC  
Hose Length: 10' (3 m)      Hose I.D.: 6" (160 mm)  
Weight: 290 lb (132 kg)  
H: 41.75" (1060 mm) W: 26.0" (660 mm) L: 30.25" (768 mm)

Hexavalent chromium, or Cr(VI), is formed as a result of certain welding processes. Industry compliance with current OSHA standards regarding occupational exposure to hexavalent chromium is required by law. Determination and application of effective compliance measures - including the selection and use of fume extraction equipment, as well as the correct handling and disposal methods for filters used in fume extractors - is the responsibility of the employer or business entity. Refer to our website for more information about OSHA's Hexavalent Chromium Standards.

### ELECTRODE OVENS

#### 10 LB Capacity 10B Portable Oven



**Easy to Load, Easy to Carry**  
**Lightweight, Rugged, Completely Portable**  
**Fast Access to Welding Electrodes at Point of Work**  
**Low Cost Control of Welding Quality in the Shop or Field**

Operates from 115 volt AC/DC source. Equipped with rod lifter, pilot light and has a 1" high false bottom to prevent moisture damage to electric connections. Thermostatically controlled oven temperature ranges from 100 - 400° F. Provides absolute electrode stability when used in conjunction with temperature-controlled ovens.

**Specifications**

Capacity: 10 to 20 lb  
 Outside Dimensions: 7" dia. x 23" high  
 Inside Dimensions: 3" dia. x 19" high  
 Unit Weight: 14 lb  
 Electrode Size: up to 18"  
 Line Cord: 3 wire - 8 ft.  
 Element: 125 W - 115 V  
 Pilot Light: yes  
 Temperature Range: 100 - 400° F  
 Stacking: no

#### 125 LB Model 125 Oven      350 LB Model 350 Oven



These ovens are compact and modular in design with recessed controls. The storage shelves can be easily removed to accommodate large size loads. They are fully insulated to prevent heat loss with pilot lights to indicate oven operation. A combination thermostat on/off switch maintains oven temperature in the 100 - 550 degree F range. Both models operate on 115 volt AC power.

**Model 125**

Capacity: 125 - 175 lb      Thermostat: yes  
 Unit Weight: 58 lb      Electrode Size: up to 18"  
 Line Cord: 3 wire - 8 ft      Element: 1000 W - 115 V  
 Pilot Light: yes      Temperature Range: 100 - 550° F  
 Outside Dimensions: 16" x 16" x 24.5"  
 Inside Dimensions: 8.25" x 9.75" x 19.5"

**Model 350**

Capacity: 350 - 450 lb      Thermostat: yes  
 Unit Weight: 105 lb      Electrode Size: up to 18"  
 Line Cord: 3 wire - 8 ft      Element: 1500 W - 115 V  
 Pilot Light: yes      Temperature Range: 100 - 550° F  
 Outside Dimensions: 22" x 22" x 24.5"  
 Inside Dimensions: 14" x 16" x 19"

### FLUX HOLDING OVENS

#### 200 LB Model GOV-200-FD Flux Holding Oven



**Keeps Flux Dry, 200 lb Capacity**  
**Temperature Range of 100 to 550 Degrees F**  
**Operates on 115 or 230 VAC Power Supply**

This insulated 200 lb capacity flux holding oven is generally located in the storage area and is used to keep the flux in its dry state or to dry out flux that has picked up moisture. It is complete with lifting lugs, a hinged loading lid, thermometer and a flux heating system incorporating 1,500 watts of low density elements. Temperature controlled by thermostat. Temperature range 100 to 550 degrees F.

For operation on 115 or 230 volt, single phase power.

Weight: 155 lb (70.3 kg)  
Height: 54" (1372 mm) Width: 20" (508 mm) Depth: 24" (610 mm)

#### 600 LB Model GOV-600-FD3 Flux Holding Oven



**Keeps Flux Dry, 600 lb Capacity**  
**Temperature Range of 100 to 550 Degrees F**  
**Available for operation on various Industrial Power Supplies**

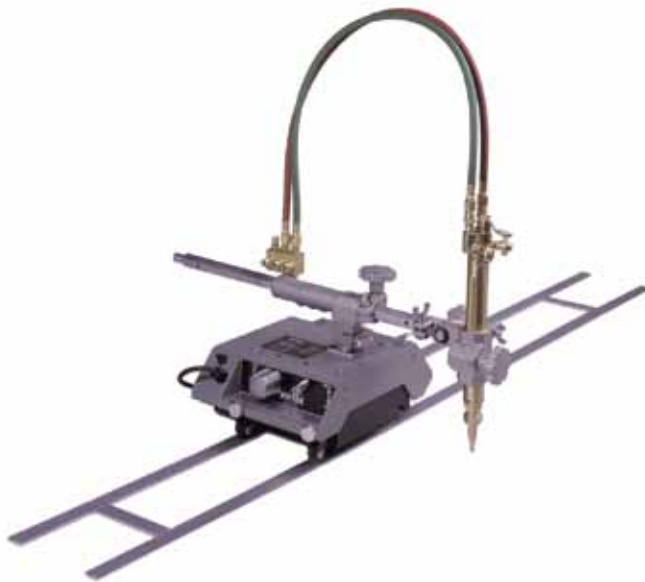
This fully insulated 600 lb capacity flux oven incorporates three individual 200 lb flux hoppers, enabling up to three different types of flux to be stored and dried simultaneously. Complete with three hinged loading lids, lifting lugs, three individual thermometers and a flux heating system incorporating 1,500 watts of low density elements per compartment. Temperature is controlled by three individual thermostats so that each hopper is individually controlled. Temperature range of 100 to 550 degrees F. Operates on any industrial power supply (220, 460, 575 volts).

Weight: 250 lb (113.4 kg)  
Height: 54" (1372 mm) Width: 42" (1067 mm) Depth: 24" (610 mm)



### OXY-FUEL CUTTING EQUIPMENT

#### Victor VCM 200 Cutting Machine



**Rugged Construction**  
**MT210 Torch and Torch Rack**  
**32 Pitch Pinion Torch Holder**  
**3 Hose Manifold Block**

The VCM 200 is a precision, tractor-type machine that can be used on its own track for straight line cutting and a variety of welding operations. Operated off the track with a radius rod assembly, the VCM 200 can be used for circle cutting. Features include large thumb screws for hand tight adjustments, dual drive controls and direct speed readout, cone disc drive, constant speed AC induction motor, up to 18" of torch racking distance from the machine, and constant speed over a wide range of temperatures. The torch holder is designed for machine torches with 1 3/8" (35 mm) barrel diameters. Available in high speed and high temperature model versions.

**Specifications**  
Speed Range: 1" (25 mm) to 60" (1524 mm) per minute  
6' Track Section: 0212-0005  
12' Track Section: 0212-0018  
Radius Rod for Circle Cutting: 0252-0040  
Circle Diameters: 4" (100 mm) to 96" (2438 mm)  
Weight: 47.0 lb (21 kg)  
H: 11.5" (289 mm) W: 11" (277 mm) L: 14.25" (359 mm)

### AIR CARBON ARC GOUGING (CAC-A)

#### K4000 Arc Gouging Torch



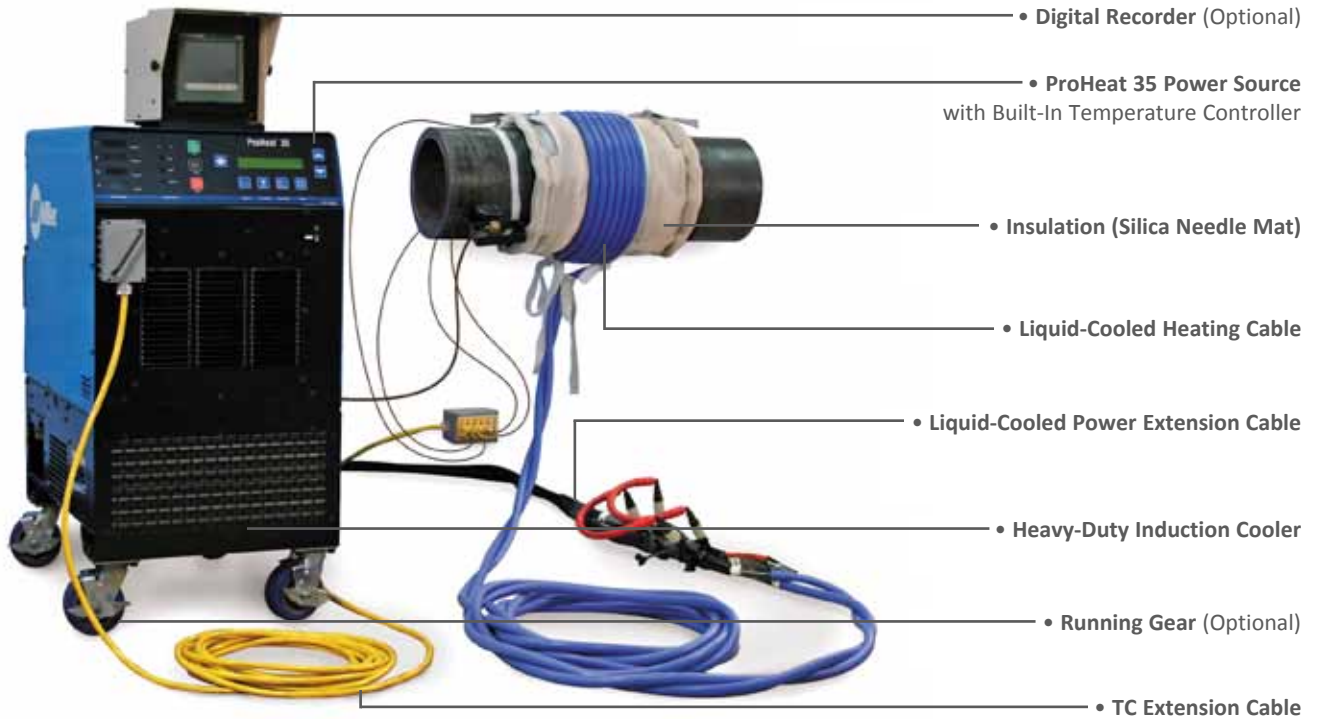
**Positive Grip Handle**  
**Rugged Construction**  
**Heavy Duty Metal Removal**  
**Reduced Torch and Cable Weight**  
**Natural 15 Degree Angle in the Torch**

The K4000 hand arc gouging torch is made for heavy-duty metal removal applications such as weld preparations in pressure vessel shops and shipyards. Comes with a 10' cable. Requires a welding power source, air compressor and carbon electrodes. See also page 71 for air carbon arc cutting and gouging data.

**Specifications**  
Accepts:  
Pointed Carbons: 5/32" (4 mm) to 1/2" (13 mm)  
Flat Carbons: 3/8" (10 mm) and 5/8" (16 mm)  
  
Maximum: 1000 amps  
  
Compressed Air Requirements:  
Pressure: 80 psi (5.6 kg/cm<sup>2</sup>)  
Flow Rate: 28 cfm (0.79 m<sup>3</sup>/min)  
  
Torch and Cable Weight: 5.4 lb (2.4 kg)

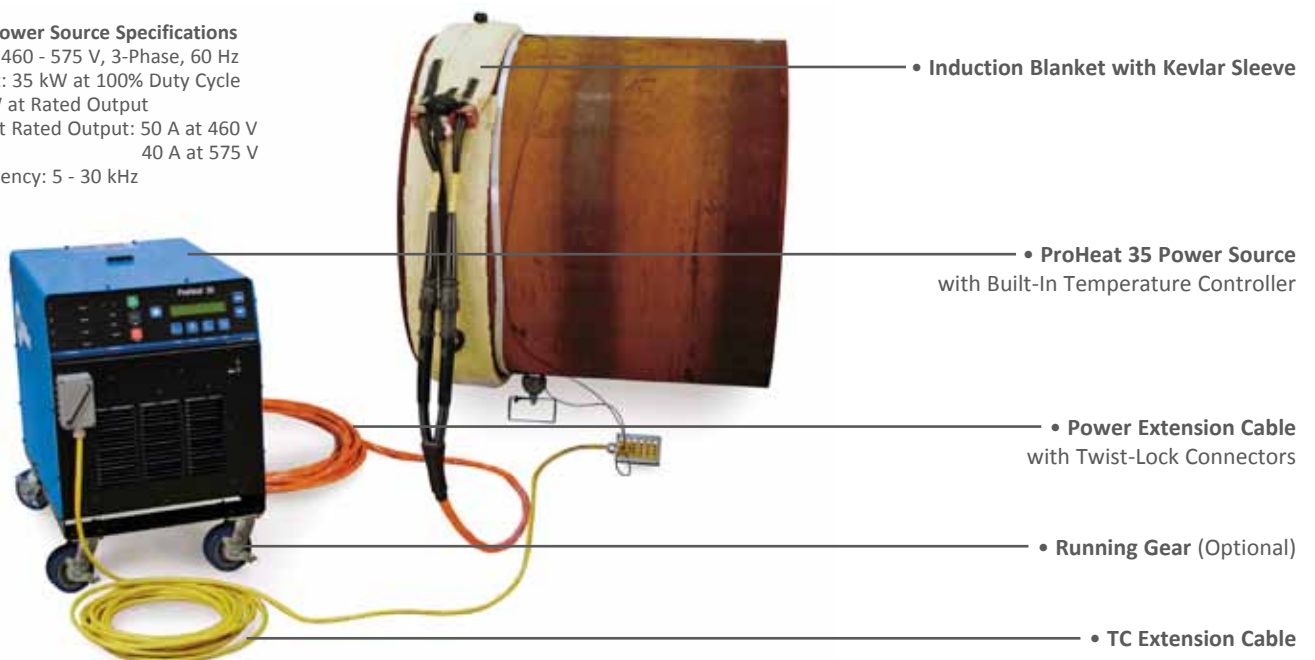
### INDUCTION HEATING SYSTEMS

#### ProHeat 35 Liquid-Cooled Weld Preheating and Stress Relieving System



#### ProHeat 35 Air-Cooled Induction System

**ProHeat 35 Power Source Specifications**  
 Input Power: 460 - 575 V, 3-Phase, 60 Hz  
 Rated Output: 35 kW at 100% Duty Cycle  
 39 kVA/37kW at Rated Output  
 Input Amps at Rated Output: 50 A at 460 V  
 40 A at 575 V  
 Output Frequency: 5 - 30 kHz



### INDUCTION HEATING SYSTEMS

#### How do Induction Heating Systems work?

Induction Heating Systems use non-contact heating. They induce heat electromagnetically rather than using a heating element in contact with the part to conduct heat. Induction heating acts more like a microwave oven; the appliance remains cool while the food cooks from within.

In an industrial example, heat is induced in the part by placing it in a high-frequency magnetic field. The magnetic field creates eddy currents, exciting the part's molecules and generating heat. Because heat generation occurs slightly below the metal surface, no heat is wasted.

Like resistance heating, conduction is required to heat through the section or part. But unlike resistance heating, which heats the surface of the part, induction heating heats within the part. The depth of heating depends on the frequency used. High frequency (50 kHz) heats closer to the surface, while low frequency (60 Hz) penetrates deeper into the part. This allows more efficient heating of thicker parts. The induction coil does not heat up (as the work-piece heats up) since the conductor is large for the current being carried.

Induction Heating Systems consist of a power source (the ProHeat 35 system produces output of 35 kW at 100% duty cycle, 5-30 kHz), an induction blanket and associated cables. The ProHeat 35 has a built-in temperature control which provides for manual- or temperature-based programming. Air-cooled systems are used for preheat only, for applications up to 400 degrees F (204 degrees C). The induction blanket in an air-cooled system consists of an induction coil, surrounded by insulation and sewn into a high temperature, replaceable Kevlar sleeve. Liquid-cooled systems are used for high-temperature preheating, stress relieving, and hydrogen bake-out, for applications up to 1450 degrees F (788 degrees C), and can be used with an optional Digital Recorder for critical applications. In a liquid-cooled system, the induction coil is housed in a flexible liquid-cooled hose.

#### What are the benefits of using an Induction Heating System?

Compared to conventional methods, induction heating offers numerous advantages:

**Uniformity and Quality** - Induction heating provides the highest degree of temperature control with the most consistent heating across the heat affected zone (HAZ). It can deliver higher internal temperatures than resistance methods. It is impossible to damage alloy pipe using induction heating. It allows welders to perform consistent, high quality post-weld heat treatment.

**Reduced Cycle Time** - The induction method provides significantly quicker time-to-temperature. On thicker applications (like high-pressure steam lines) induction heating can reduce cycle time by two hours. When combined with other usability factors, it is not uncommon to expect a 50% total cycle time reduction.

**Reduced Consumables Cost** - The insulation used in induction heating is easy to attach to the work piece and can be reused up to 50 times. Compared to the ceramic fiber insulation used in resistance heating, which can only be used once or twice - induction heating means a reduction in the cost of disposing of potentially hazardous material. Induction coils and connectors are robust, and since they don't operate at high temperatures, they are not subject to degradation.

**Power Efficiency** - The inverter power source is 92% efficient - a real advantage in an era of skyrocketing energy costs. And the induction heating process is more than 80% efficient. The ProHeat 35 power source requires less than 60 amps of current draw to produce 35 kW of output.

**Ease of Use** - A major benefit to induction heating is its simplicity. Primary power is easy to install through a panel that does not require the removal of sheet metal. Insulation and cables are easy to install, usually taking less than 15 minutes. The power source unit has on-board diagnostics with an Operator Tutoring System providing helpful information to optimize coil arrangements for maximum performance. And movement of the equipment around the work area is easily achievable with a lifting eye or optional running gear.

**Safety** - The induction heating method is extremely worker-friendly. Welders are not exposed to open flame, explosive gases and hot elements associated with resistance heating or fuel gas heating. In induction heating, insulation does not break down into dust, releasing very little airborne particulate for the worker to breathe in. The coils are also protected from isolation and ground faults to prevent electrocution.

**Reliability** - One of the most important factors impacting productivity in stress relieving is not interrupting the cycle. In most instances, cycle interruption means the heat treat will need to be re-run, which is significant when a thermal cycle can take a day to complete. Induction heating system components make cycle interruptions unlikely. Induction's simple cabling is much less likely to fail.

**Versatility** - Originally designed for the preheat and stress relief of pipe, the induction heating process has been adapted for use with weldolets, elbows, valves, structural steel I-beams and other parts, and other unique applications. Induction heating is an attractive method for use with complex shapes, as coils can be adjusted during the heating process to accommodate unique parts. The process can be started by the operator, then monitored in real-time, and the coil position modified to change the result. The induction cables can be moved without waiting for air cooling at the end of the cycle.

### INDUCTION HEATING SYSTEMS

#### Induction Heating Applications



##### **Preheating of an in-service pipeline to 100° C before welding on a sleeve**

Liquid-cooled induction coils are flexible and easy to apply to a variety of geometries. Here, a sleeve is being welded onto a pipe that has material flowing through it - an operation known as a "hot tap". The material flowing through the pipe is taking heat away from the joint, but here a single 35 kW unit is able to maintain the desired temperature at the joint. Common, inexpensive materials are used to hold the coil in place. The set-up time and cycle-time hours were reduced as a result of using the ProHeat 35 Induction System.



##### **Post Weld Heat Treating (PWHT) of a drill pipe to 1350° F after welding**

Two PWHT joints are being processed with one water-cooled induction coil. As long as the dimensions of the two pipe joints are similar, the applied induction field will heat both relatively the same. This also shows the proper way to terminate any unused portion of the coil. The ends of the coil should be twisted together or tied together with tie-wraps, tape, rope or string in order to reduce the amount of losses in the unused portion. These common, inexpensive materials can be used to secure the excess coil ends as the coil itself does not heat during the process.



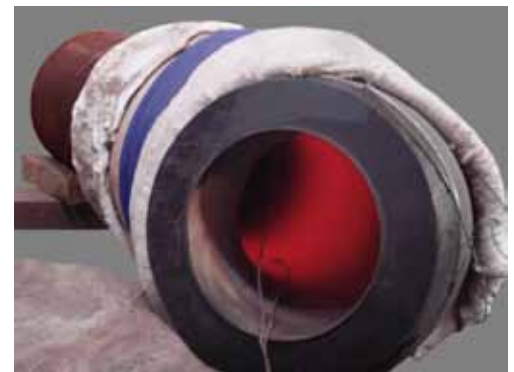
##### **Preheating of structural I-Beam to 300° F**

Liquid-cooled coils are wound "pancake" style and secured to a section of plywood to hold the desired shape. A layer of preheat insulation is placed between the plywood and the I-Beam to prevent the overheating of the wood. The magnetic field passes through the plywood and the insulation to induce the desired heating of the I-Beam.



##### **Post Weld Heat Treating (PWHT) of a P91 header to 1400° F after welding**

Liquid-cooled coils wrap around PWHT insulation that is applied to the header. The insulation is a 1" thick silica needle mat which traps the heat in the header while protecting the coil from the high temperatures. Thermocouples are attached to the weld joint to provide temperature data back to the power source. The integrated temperature controller on the ProHeat 35 has a standard PWHT program that will execute the controlled heating profile, that will ramp up to the set temperature, dwell there for a set time, then cool down at a controlled ramp rate. Custom programs can be created within the controller with multiple steps, ramps and dwells in a single cycle.



### INDUCTION HEATING SYSTEMS

#### ProHeat 35 Components



The **induction blanket** is the newest innovation in preheat technology. The flexible, lightweight blankets come in a variety of sizes and are capable of preheat temperatures of up to 400° F (204° C). The blankets easily conform to circular and flat parts and install in a matter of seconds. Manufactured from durable high-temperature materials, flexible induction blankets withstand the tough conditions in industrial and construction applications. Each blanket comes with securing straps and a replaceable **Kevlar sleeve** which provides added protection against abrasion, cuts, and tears, extending the blanket life.



**Output extension cables** are available in 25, 50, and 75' (7.6, 15.2 and 22.8 m) lengths and provide interconnection between the power source and the induction blanket. The insulated twist-lock connector at the power source end identifies the type of heating device to the power source controller. This cable identification system prevents over duty cycling of the heating blanket.



The **series cable adapter** is used to combine two blankets in a series. Enables one power source and one output cable to be used to create extra heating area using two blankets.



The **liquid-cooled heating cable** couples the power to the part to be heated. The silicone hose encloses a special copper conductor specifically designed for carrying high-frequency current to maximize efficiency. The hose also carries the coolant, which cools the conducting wire. The hose is reinforced for strength and durability.

**Preheat cable covers** are available to protect the heating cable from slag and molten metal created during welding. The cable covers must be used with the 1/2" preheat insulation, with temperatures up to 650° F (343° C).



The insulation is designed to insulate the work for process efficiency, maintain the optimum coupling distance between the coil and the work, and protect the liquid-cooled cable from high temperature. **Preheat insulation** is provided in strips of six or twelve inches wide and ten feet long. Preheat insulation is 1/2" (12.7 mm) thick due to the lower temperatures of preheating. The insulation is cut to length for the application. **Postweld heat treatment insulation blankets** are sized and stenciled for the pipe size to be treated. It is sewn into a silica blanket which provides high durability. 50 thermal cycles or more can be achieved with one blanket.



**Output extension cables** are available to remote the power source up to 50 feet away from the work. Insulated quick-connects are used to easily remove and attach the coolant lines. The cable identification system, built into the connector at the power source end, identifies this as a liquid-cooled system and permits full power. The cables are flexible for ease of use.

### DRY ICE BLASTING SYSTEMS

#### Aero 40/Aero 40 HP



**Superior performance in a compact design Available in standard and High Pressure (HP) models**

The 40 Series guarantees the best pellet integrity, maximum cleaning aggression, and the most reliable blast stream on the market. Uses frequency-tuned vibratory agitation to eliminate clogging. Allows you to blast through the 40 lb hopper without stopping.

Dry Ice Capacity (pellets):  
40 lb (18.1 kg)  
Feed Rate:  
0 - 4 lb/min (0 - 1.8 kg/min)

Blast Pressure Range: Aero 40 20 - 140 PSI (1.4 - 9.7 bar)  
\*with pressure regulator Aero 40 HP 20 - 250 PSI (1.4 - 17.2 bar)

Weight: 260 lb (118 kg)  
H: 40" (1016 mm) W: 20" (508 mm) L: 36" (914 mm)

#### Aero 80 HP



**The signature model of the Aero product line Features a tilt-out hopper**

The 80 HP guarantees the best pellet integrity, maximum cleaning aggression, and the most reliable blast stream on the market. Uses frequency-tuned vibratory agitation to eliminate clogging. Allows you to blast through the 80 lb hopper without stopping, or empty unused ice easily and use it again.

Dry Ice Capacity (pellets):  
80 lb (36.4 kg)  
Feed Rate:  
0 - 7 lb/min (0 - 3.2 kg/min)

Blast Pressure Range: 20 - 300 PSI (1.4 - 20.7 bar)  
\*with pressure regulator

Weight: 400 lb (181.4 kg)  
H: 46" (1168 mm) W: 20" (508 mm) L: 43" (1092 mm)

#### Aero C100



**Aero performance in an all-pneumatic design Relies solely on air and ice to deliver superior results wherever the job may be**

The C100 is the most powerful and efficient pneumatic design on the market. The pulse-free stream cleans uniformly on every pass. Able to use double the normal hose length (up to 100 feet) to clean in locations never before possible.

Dry Ice Capacity (pellets):  
100 lb (45.5 kg)  
Feed Rate:  
0 - 7 lb/min (0 - 3.2 kg/min)

Blast Pressure Range: 20 - 140 PSI (1.4 - 9.7 bar)  
\*with pressure regulator

Weight: 250 lb (113.4 kg)  
H: 45" (1143 mm) W: 15" (381 mm) L: 31" (787 mm)

#### i<sup>3</sup> MicroClean



**Designed for precision applications Lightweight, Compact, Low Pressure, Electric**

The i<sup>3</sup> MicroClean features patented shaved dry ice technology. Enables you to safely clean delicate surfaces and complex cavities and crevices that other machines can't reach - without surface abrasion. The robust chain drive provides ultimate reliability in demanding environments.

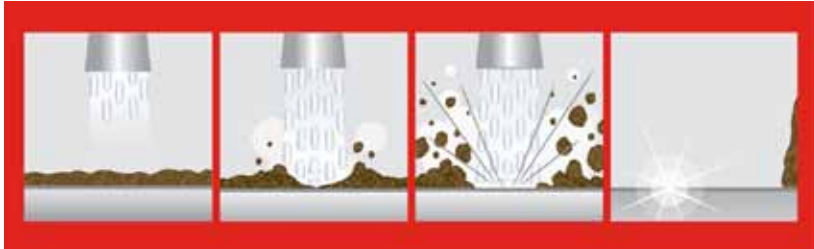
Dry Ice Capacity (block):  
20 lb (9.1 kg)  
Feed Rate:  
0 - 1.2 lb/min (0 - 0.5 kg/min)

shown with optional transport cart

Blast Pressure Range: 20 - 140 PSI (1.4 - 9.7 bar) \*with pressure regulator  
Weight: 130 lb (59 kg)  
H: 21" (533 mm) W: 16" (406 mm) L: 22" (559 mm)  
Input Power: 100-140 V, 1 Phase, 50/60 Hz, 5 amps

## DRY ICE BLASTING SYSTEMS

### How does it work?



Instead of abrasive media to grind surfaces (and damage them), dry ice blasting uses solid CO<sub>2</sub>, accelerated at supersonic speeds that sublimates upon impact and lifts contaminants from substrates. Dry ice blast cleaning utilizes a unique combination of forces to powerfully lift surface contaminants without causing damage or creating harmful secondary waste.

### A Faster, Better, Green Cleaning Process

#### Dry Ice Blasting is clean and safe

Dry ice has been approved by the EPA, FDA and USDA as an acceptable material in cleaning methods. For food processors, dry ice blasting has been documented by the Food Standards Agency to effectively decontaminate surfaces of Salmonella, E. coli and Listeria. Dry ice blasting does not release harmful gases into the atmosphere. Dry ice blasting does not generate secondary waste. Dry ice blasting is safe and non-toxic (once pellets impact the surface, they dissipate). Dry ice blasting reduces or eliminates employee exposure to (and corporate liability from) the use of dangerous chemical cleaning agents.



#### Environmentally Responsible

In addition to being clean and safe, it is also important to remember that dry ice is obtained as a by-product of other industrial processes - i.e. it is made from reclaimed CO<sub>2</sub>. It does not produce CO<sub>2</sub> or add CO<sub>2</sub> to the atmosphere and therefore does not contribute to the greenhouse effect. Dry ice blasting is truly, and completely, environmentally responsible.

#### Other cleaning methods can be toxic

When using solid grit media or water for cleaning hazardous materials, the cleaning medium also becomes hazardous, requiring special handling, disposal and regulatory reporting. Dry ice creates none of these waste stream additions. Sand, soda, or water blasting can create downstream contamination that affects surrounding installations. Soda blasting can kill surrounding vegetation. Chemical and solvent cleaning methods are toxic, which creates toxic waste requiring disposal. Workers are exposed to potentially harmful substances through the use of chemicals and solvents.

### Dry Ice Blasting vs. traditional cleaning methods

CLEANING METHOD	NO SECONDARY WASTE	NON-CONDUCTIVE	NON-TOXIC*	NON-ABRASIVE
Dry Ice Blasting	●	●	●	●
Sand Blasting		●	●	
Soda Blasting		●	●	
Water Blasting			●	●
Hand Tools	●		●	
Solvents/Chemicals				●

\*Upon contact, traditional blasting materials become contaminated when used to clean hazardous substances and objects. These blasting materials are then classified as toxic waste and require appropriate safe disposal.

#### Rent, Lease or Purchase

Regardless of the size and scope of your dry ice blasting project, we have options to accommodate your needs. From daily rentals to new machine sales - we have you covered. You can rent your blasting equipment by the day, week or month. Equipment can be leased for a 36-month term. You can "Try-Before-You-Buy", where your equipment is delivered to you on a rental basis, but you can exercise an option to purchase within the first 30 days. Or you can purchase new or used equipment. We even offer our Blasters Plus Program - an all-inclusive agreement for the rental of the system, supply of dry ice, and a compressed air supply.

Over 30 industries and hundreds of applications, including:

**Power Generation**  
**Rubber and Plastic**  
**Historical Restoration**

**Contract Cleaning**  
**Medical**  
**Disaster Remediation**

**Foundry and Forging**  
**Food and Beverage Processing**  
**Paint and Ink Removal**

### DRY ICE BLASTING SYSTEMS

#### Dry Ice Blasting Applications

##### Power Generation -

##### Peak performance with less outage time

Power Generation professionals know one key to peak performance is clean electrical equipment. However, the demand to keep the equipment running often leads to deferred cleaning and maintenance, reduced efficiency, and in some cases, outages caused by flashover. Dry ice blasting provides a non-conductive, environmentally responsible cleaning process that allows equipment to be cleaned in-place, without cool down or disassembly. In addition, the outage time typically needed for cleaning can be reduced up to 65%.



##### Disaster Remediation -

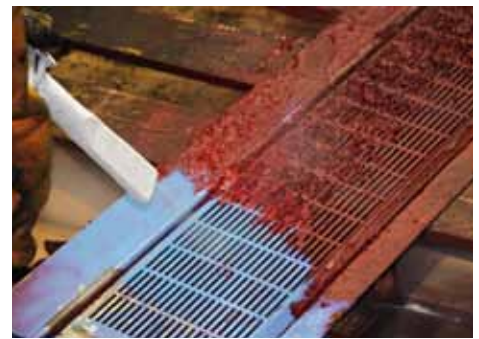
##### Complete clean in less time

When disaster strikes, the demand for immediate clean-up follows. Whether fire, smoke, water or mold damage, traditional cleaning methods are time consuming and tedious, not to mention ineffective for complete removal. Dry ice blasting is up to three times faster than traditional methods and provides a more thorough clean, even in tight angles of trusses and around nails and wiring. In addition, dry ice blasting achieves 99% mold spore removal from wood.



##### Facility Maintenance - Reduce cleaning time and production line disruptions

Dirt, soot, grease and oil build up in production facilities causes machinery to function improperly and can create an unsafe working environment. Effective cleaning extends the life of electric motors, reducing or eliminating costly repair or replacement. However, manual cleaning is often delayed to prevent shut down of production lines. Dry ice blasting provides a quick, safe and economical cleaning solution that allows equipment to be cleaned in-place without disassembly or cool down.



##### Food Processing and Packaging - Less time, less water and waste

Food processing and packaging equipment gets dirty with grease, wax, proteins, seasonings, crumbs, glue and other build-up. This prevents the equipment from operating at peak efficiency. Unfortunately, traditional manual cleaning methods are time-consuming, ineffective and usually involve significant amounts of water and resulting waste. Dry ice blasting offers a superior cleaning process that can reduce cleaning time by up to 80%, eliminate secondary waste and result in a significant reduction in overall cleaning costs.



##### Weld Line Cleaning -

##### Better welds, less scrap, less downtime

Weld slag, spatter, resin, smoke, oil and dampering adhesive builds up on production equipment. This causes misalignment and can prevent the proximity switch from firing in the appropriate spot. The robot stops welding, or welds incorrectly creating scrap and causing equipment failure and production downtime. "No contact" dry ice blasting provides an effective and economical removal solution for slag and splatter build up.



##### Historical Restoration - Reduced cleaning time and labor

The faster and more effective you can be on the job, the more profits you will make. Dry ice blasting allows safe, effective and fast restoration of historical items, allowing you to save time, labor, clean-up and disposal costs. Contract cleaners around the world have grown their businesses by decreasing project costs and increasing efficiency with dry ice blasting. Effective for lead paint abatement, reversal of the aging effect, and removal of corrosive contaminants.





### DRY ICE BLASTING SYSTEMS

## Dry Ice Components and Accessories

Regardless of the size and scope of your dry ice blasting project, we have everything you need to get the job done.



**Applicators** - All AeroTech Applicators are light weight, with a low center of gravity to significantly reduce operator arm fatigue. All include a safety on/off switch to ensure safety when not blasting. A trigger switch allows the use of "air only" for purging the system when required. Models come with or without a light attachment, in mini and tight-access sizes, and also in high performance versions.

**Blasting Nozzles** - Whether you are looking for maximum aggression for removing the toughest contaminants or looking for gentle cleaning on delicate substrates, we can supply the nozzles you need for your project.



**Hoses and other Blasting Accessories** - Whatever you need in the way of air supply hoses or blasting hoses, in various lengths and diameters, we have them. We can also supply all other required fittings and dry ice blasting accessories.



**After Cooler** - Portable diesel compressors are a necessity to run your blasting operation, but they often supply hot and moist air, which can alter the integrity of your ice and hamper the performance of your blasting system. The After Cooler will remove up to 80% of the moisture from the ambient air. It will cool the compressed air, which can reach temperatures of 180° - 200° F (82.2° - 93.3° C) to within 5° of the ambient temperature. This allows the operator to control the moisture in their blasting environment so they can blast in virtually all temperatures and humidity levels.



**Portable Diesel Compressors** - We supply a range of portable diesel-engine driven air compressors for your blasting needs. This includes ultra-quiet, high-efficiency models and also high pressure models with an integral after cooler.

**Safety Accessories** - Our Safety Kits include eye and ear protection and gloves, scoops and block handlers for working with the dry ice. Ensure your operators are protected.

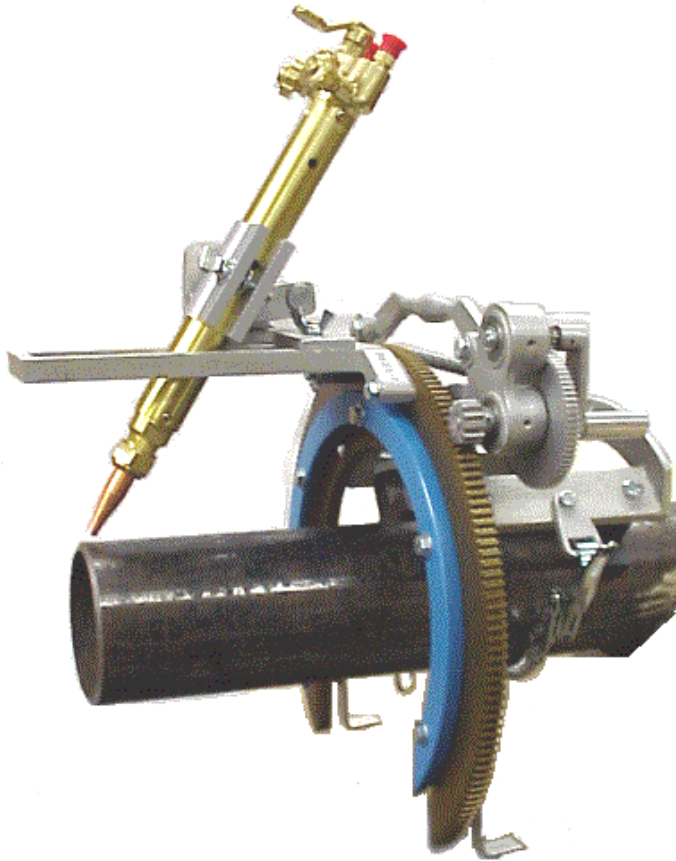


**Dry Ice** - Through our relationship with dry ice providers, we can also arrange for your supply of dry ice pellets or block dry ice.

**Dry Ice Chest** - Insulated storage containers that are specifically designed for storing and transporting dry ice. Made using a special compound melt blend of plastic that resists cold impact for greater durability. Double-walled foam-filled construction for superior insulation. Lockable lid with silicone gasket reduces sublimation of the stored dry ice.



### H & M SADDLE-TYPE PIPE BEVELERS



#### Standard Beveling Machines

Model No.	Standard Pipe Sizes	Net Weight
No. 0	2", 2.5", 3" and 4"	7.5 lb (3.37 kg)
No. 1	3", 4", 6" and 8"	16 lb (7.20 kg)
No. 2	7", 8", 10" and 12"	23 lb (10.35 kg)

#### Saddle-Type Cutting And Beveling Machines

Each machine is constructed of lightweight, hard-anodized aluminum, assuring durability and easy transportation to any job site for cutting and beveling 2" to 12" diameter pipe precisely, quickly and economically, even under the toughest conditions.

How accurately? Each ring gear and saddle is precisely machined, assembled and calibrated to  $\pm .025"$  in concentricity and  $\pm .015"$  in squareness. Each machine is equipped with a rear-mounted short saddle for cutting and beveling in tight locations. The rear-mounted saddle allows precise back-beveling operations without sacrificing the machine's integrity.

How swiftly? These machines' unique "split horseshoe" design permits easy placement over pipe sections. A quick-operating boomer assembly secures each machine to the pipe during the entire 360-degree rotation; no repositioning is necessary. The patented Cuboid Spacer System minimizes downtime by keeping the spacers on the machine. When using the No. 2 Standard Pipe Beveling Machine, for example, a 12" diameter pipe can be completely cut and beveled in less than four minutes.

How economically? Using H & M Pipe Beveling Machines saves weld prep time and money compared to hand cutting. Anyone can make accurate cuts and bevels with just a few minutes of instruction. Easy-to-follow manuals are provided with each machine.

Beveling machines include spacers for each nominal pipe size, Victor MT204 machine torch for #0 and #1 cutting tips or MT210 for #2 and larger cutting tips, flash arrestors, model C torch holder, boomer chain assembly and storage box for shipping (gas hose, gauges and cutting tips are not included.)

### H & M BAND-TYPE BEVELERS



Cutting 48" pipe with Band-Type Pipe Beveler

#### Stainless Steel Bands

Model Number	Pipe Size (inches)	Shipping Weight
BAND14	10 to 14	6 lb (2.71 kg)
BAND20	14 to 20	8 lb (3.62 kg)
BAND26	20 to 26	9 lb (4.07 kg)
BAND30	26 to 30	10 lb (4.52 kg)
BAND36	30 to 36	12 lb (5.43 kg)
BAND42	36 to 42	14 lb (6.33 kg)
BAND48	42 to 48	15 lb (6.79 kg)
BAND56	48 to 56	16 lb (7.24 kg)
BAND60	56 to 60	17 lb (7.69 kg)
BAND64	60 to 64	18 lb (8.14 kg)
BAND68	64 to 68	19 lb (8.60 kg)
BAND72	68 to 72	20 lb (9.05 kg)

#### Band-Type Pipe Cutting And Beveling Machines

The H & M Band-Type Pipe Cutting and Beveling Machine is fast, accurate and versatile. A single operator can position the band and beveling machine head on 48" diameter pipe in about five minutes. The motorized beveling head is constructed of cast aluminum. Its lightweight, compact design allows for easy one-man setup and operation. Seventeen different stainless steel bands provide a cutting range of 10" to 96" diameter pipe, plus special bands are available for cutting pipe up to 20 feet in diameter.

Includes 115 VAC control box, DC reversible motor, Victor MT204 machine torch, torch holder, flash arrestors and storage box.

Each H & M Stainless Steel Band overlaps numerous pipe sizes making the bands very economical:

Automatically compensates for over-sized or under-sized pipe  
Assures accuracy - overlapping squares up the band

Unaffected by dope or coating on the pipe  
Conforms to out-of-round pipe

The H & M Motorized Beveling Machine Head incorporates a rugged, lightweight, cast aluminum chassis with the following features:

Portable (weighs only 18 lb)  
Variable speed control box with forward and reverse capabilities  
Plasma speeds (optional)

Designed to work on all H & M stainless steel bands  
Equipped with a 90-volt DC motor  
220 volt (optional)

#### H & M Manual Beveling Machine Head

Rugged, lightweight cast aluminum chassis  
Fitted with an 8.5' flexible drive cable and crank handle  
No electricity required

Easily portable at only 20 lb  
Works with all H & M stainless steel bands

### MOBILE WELDER CERTIFICATION TRAILERS



## Mobile Welder—\* Certification



**On-Site Welder Certification**  
**Multiprocess Capabilities**  
**Eight Welding Stations**  
**One Administrative Office**  
**Fume-Free Environment**

Red-D-Arc's MWCT53 welder certification trailer comes completely equipped for on-site welder testing and procedure certification with eight welding stations, a weldment-test area, and an administrative office. Each of the eight welding stations includes its own exhaust fan for a comfortable, fume-free environment, a work-holding fixture for multiple-position welding, and a multiprocess welder that can be configured for a variety of welding processes including Stick, TIG, MIG and Flux-Cored.

#### Features

Individual welding stations with fans, 115 VAC GFI outlets, and inert-gas flometers  
Requires 480 volt, 3 phase input power with 600 volt input available on request  
Includes a coupon bender for testing weldments, vice, electrode storage oven, bench grinder, a total of 12 - 115 VAC 15 amp duplex outlets

#### Specifications

Model: MWCT53  
Air Exhaust System: 6400 cfm (10874 m<sup>3</sup>/hr) @ 0.0 inch static pressure, total  
Exhaust Fans: 8 - 110 VAC high-speed fans with 800 cfm (1359 m<sup>3</sup>/hr) @ 0.0 inch static pressure, each  
Weld Stations: 8  
Coupon Bender: 10,000 lb bending force  
Electrode Oven: 350 lb (159 kg) electrode holding capacity  
Input Voltage: 480 VAC, 3 Phase, 50/60 Hz  
Trailer Dimensions: H: 160" (4064 mm) W: 102" (2591 mm) L: 636" (16154 mm)  
Trailer Weight: 20,000 lb (9072 kg)



### COMPRESSED GAS CYLINDER CAGES



**Holds up to 20 Cylinders 9.25" O.D. X 60" High**  
**4000 lb Load Capacity**  
**Lockable Door**  
**Integral Lifting Eye and Fork Tubes**

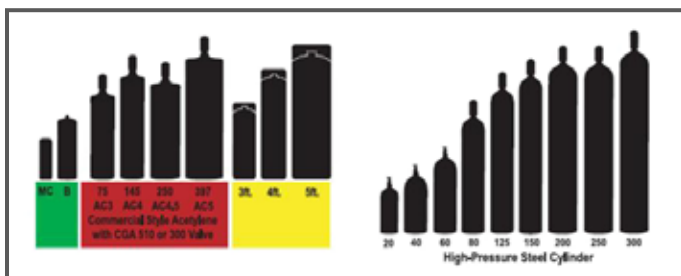
The CC20 compressed gas cylinder cage is designed for secure on-site storage of up to twenty compressed-gas cylinders (9.25" outside diameter x 60" high). The cage is all-steel tube and plate construction including 3/4" #9 expanded metal screen sides for natural ventilation and visual inventory and inspection. Cylinders are held in place by adjustable chains and the hinged access-door can be locked with a padlock to deter theft and unauthorized access. The complete unit can be moved about the construction site via a crane hoist connected to the top-mounted lifting eye. There are also four hollow-structural tubes welded to the base for maneuvering by fork-lift truck.

#### Specifications

Model: CC20  
 Cylinder Capacity: Up to 20 cylinders, 9.25" O.D. X 60" high  
 Weight Capacity: 4000 lb (1814.4 kg)  
 Shipping Class: 175  
 Weight: 921 lb (417.8 kg)  
 Height: 86" (2184 mm)  
 Width: 51" (1295 mm)  
 Depth: 56" (1422 mm)

For further information on compressed gas cylinders, their safe handling, and a comparison chart to other suppliers' cylinders, visit [www.airgas.com/content/details.aspx?id=7000000000176](http://www.airgas.com/content/details.aspx?id=7000000000176)

#### Cylinder Comparison (Airgas models shown)



#### **SAFETY MUST ALWAYS BE YOUR NUMBER ONE CONSIDERATION WHEN HANDLING COMPRESSED GAS CYLINDERS, BOTH FOR THE SAKE OF YOURSELF AND OTHERS.**

Almost all accidents involving compressed gases are a result of not following established methods for the safe handling and use of these products. Proper methods should be learned before the products are used.

Safety information can be found on the MSDS sheet for the gas product you have purchased, or from the Compressed Gas Association ([www.cganet.com](http://www.cganet.com)). OSHA standards relating to the use of Compressed Gas and Equipment can be viewed at [www.osha.gov/SLTC/compressedgasequipment/index.html](http://www.osha.gov/SLTC/compressedgasequipment/index.html). The National Fire Prevention Association also provides codes and standards concerning the handling of compressed gases ([www.nfpa.org](http://www.nfpa.org)).

### PIPE DIMENSIONS AND WEIGHTS

Upper Figures are pipe wall thickness in inches, Lower Figures are weight per foot in pounds

To calculate the weight per foot of pipe sizes not listed use the following formula:

Weight (lb/ft) = (Pipe O.D. in inches - Pipe Wall Thickness in inches) x 10.68 x Pipe Wall Thickness in inches

PIPE SIZE	PIPE O.D.	5	10	20	30	40	STD	60	80	XH	100	120	140	160	XXH
2"	2.375"	0.065	0.109	--	--	0.154	0.154	--	0.218	0.218	--	--	--	0.344	0.436
		1.604	2.638	--	--	3.653	3.653	--	5.022	5.022	--	--	--	7.462	9.029
2 1/2"	2.875"	0.083	0.120	--	--	0.203	0.203	--	0.276	0.276	--	--	--	0.375	0.552
		2.475	3.531	--	--	5.793	5.793	--	7.661	7.661	--	--	--	10.01	13.69
3"	3.5"	0.083	0.120	--	--	0.216	0.216	--	0.300	0.300	--	--	--	0.438	0.600
		3.029	4.332	--	--	7.576	7.576	--	10.25	10.25	--	--	--	14.32	18.58
4"	4.5"	0.083	0.120	--	--	0.237	0.237	0.281	0.337	0.337	--	0.438	--	0.531	0.674
		3.915	5.613	--	--	10.79	10.79	12.66	14.98	14.98	--	19.00	--	22.51	27.54
6"	6.625"	0.109	0.134	--	--	0.280	0.280	--	0.432	0.432	--	0.562	--	0.719	0.864
		7.585	9.289	--	--	18.97	18.97	--	28.57	28.57	--	36.39	--	45.35	53.16
7"	7.625"	--	--	--	--	--	0.301	--	--	0.500	--	--	--	--	0.875
		--	--	--	--	--	23.57	--	--	38.05	--	--	--	--	63.08
8"	8.625"	0.109	0.148	0.250	0.277	0.322	0.322	0.406	0.500	0.500	0.594	0.719	0.812	0.906	0.875
		9.914	13.40	22.36	24.70	28.55	28.55	35.64	43.39	43.39	50.95	60.71	67.76	74.69	72.42
10"	10.75"	0.134	0.165	0.250	0.307	0.365	0.365	0.500	0.594	0.500	0.719	0.844	1.000	1.125	--
		15.19	18.70	28.04	34.24	40.48	40.48	54.74	64.43	54.74	77.03	89.29	104.13	115.64	--
12"	12.75"	0.165	0.180	0.250	0.330	0.406	0.375	0.562	0.688	0.500	0.844	1.000	1.125	1.312	--
		22.18	24.20	33.38	43.77	53.53	49.56	73.15	88.63	65.42	107.32	125.49	139.67	160.27	--
14"	14.0"	--	0.250	0.312	0.375	0.438	0.375	0.593	0.750	0.500	0.937	1.093	1.250	1.406	--
		--	36.71	45.61	54.57	63.44	54.57	84.91	106.13	72.09	130.72	150.67	170.21	189.11	--
16"	16.0"	--	0.250	0.312	0.375	0.500	0.375	0.656	0.843	0.500	1.031	1.219	1.437	1.594	--
		--	42.05	52.27	62.58	82.77	62.58	107.50	136.46	82.77	164.82	192.43	223.50	245.25	--
18"	18.0"	--	0.250	0.312	0.438	0.562	0.375	0.750	0.937	0.500	1.156	1.375	1.562	1.781	--
		--	47.39	58.94	82.15	104.67	70.59	138.17	170.75	93.45	207.96	244.14	274.22	308.50	--
20"	20.0"	--	0.250	0.375	0.500	0.594	0.375	0.812	1.031	0.500	1.281	1.500	1.750	1.969	--
		--	52.73	78.60	104.13	123.11	78.60	166.40	208.87	104.13	256.10	296.37	341.09	379.17	--
22"	22.0"	--	0.250	0.375	0.500	--	0.375	0.875	1.125	0.500	1.375	1.625	1.875	2.125	--
		--	58.07	86.61	114.81	--	86.61	197.41	250.81	114.81	302.88	353.61	403.00	451.06	--
24"	24.0"	--	0.250	0.375	0.562	0.687	0.375	0.969	1.219	0.500	1.531	1.812	2.062	2.344	--
		--	63.41	94.62	140.68	171.05	94.62	238.35	296.58	125.49	367.39	429.39	483.12	542.13	--
26"	26.0"	--	0.312	0.500	--	--	0.375	--	--	0.500	--	--	--	--	--
		--	85.60	136.17	--	--	102.63	--	--	136.17	--	--	--	--	--
28"	28.0"	--	0.312	0.500	0.625	--	0.375	--	--	0.500	--	--	--	--	--
		--	92.26	146.85	182.73	--	110.64	--	--	146.85	--	--	--	--	--
30"	30.0"	--	0.312	0.500	0.625	--	0.375	--	--	0.500	--	--	--	--	--
		--	98.93	157.53	196.08	--	118.65	--	--	157.53	--	--	--	--	--
32"	32.0"	--	0.312	0.500	0.625	0.688	0.375	--	--	0.500	--	--	--	--	--
		--	105.59	168.21	209.43	230.08	126.66	--	--	168.21	--	--	--	--	--
34"	34.0"	--	0.312	0.500	0.625	0.688	0.375	--	--	0.500	--	--	--	--	--
		--	112.25	178.89	222.78	244.77	134.67	--	--	178.89	--	--	--	--	--
36"	36.0"	--	0.312	0.500	0.625	0.750	0.375	--	--	0.500	--	--	--	--	--
		--	118.92	189.57	236.13	282.35	142.68	--	--	189.57	--	--	--	--	--
42"	42.0"	--	--	--	0.625	0.750	0.375	--	--	0.500	--	--	--	--	--
		--	--	--	276.18	330.41	166.71	--	--	221.61	--	--	--	--	--
48"	48.0"	--	--	--	--	--	0.375	--	--	0.500	--	--	--	--	--
		--	--	--	--	--	190.74	--	--	253.65	--	--	--	--	--

## AIR CARBON ARC GOUGING DATA

The air carbon arc process is flexible, efficient, and cost effective on practically any metal; carbon steel, stainless steel and other ferrous alloys; gray, malleable and ductile cast iron; aluminum; nickel; copper alloys and other nonferrous metals. Single-phase machines with low open-circuit voltage may not work for air carbon arc gouging (CAC-A). However, any three-phase welding power source of sufficient capacity may be used for air carbon arc gouging. The arc voltage used in air carbon arc gouging and cutting ranges from a low of 35 to a high of 56 volts; thus the open-circuit voltage should be at least 60 volts. The actual arc voltage is governed by arc length and the type of gouging. For most applications CAC-A is used with DCEP (reverse polarity). The electrode should extend at most 7 inches from the gouging torch with the air jet between the electrode and workpiece.

A minimum extension of 2" should be used to prevent damage to the torch parts. Normal compressed air pressures for CAC-A range between 80 psi and 100 psi at the torch; higher pressures may be used, but they don't remove metal more efficiently. Use 60 psi (413.7 kPa) with the light-duty manual torch. The air hose supplying air to the torch body should have an inside diameter of at least 3/8" (6.4 mm).

### SUGGESTED CURRENT RANGES FOR COMMONLY USED ELECTRODE TYPES AND SIZES

Electrode Diameter		DC Electrode With DCEP		AC Electrode With AC		AC Electrode With DCEN	
in.	mm	Minimum Amps	Maximum Amps	Minimum Amps	Maximum Amps	Minimum Amps	Maximum Amps
1/8	3.2	60	90	-	-	-	-
5/32	4.0	90	150	-	-	-	-
3/16	4.8	200	250	200	250	150	180
1/4	6.4	300	400	300	400	200	250
5/16	7.9	350	450	-	-	-	-
3/8	9.5	450	600	350	450	300	400
1/2	12.7	800	1000	-	-	-	-
5/8	15.9	1000	1250	-	-	-	-
3/4	19.1	1250	1600	-	-	-	-
1	25.4	1600	2200	-	-	-	-

### RECOMMENDED MINIMUM AIR REQUIREMENTS

Type of Torch	Recommended Compressor Rating									
	(1) Air Pressure		Air Consumption		Intermittent Use		Continuous Use		ASME Receiver Size	
	psi	kPa	cfm	L/min	hp	kW	hp	kW	gal	litres
Light Duty (2)	40	280	8	227	.5	0.4	1.5	1.1	60	227
General Duty (2)	80	550	25	708	5.0	3.7	7.5	5.6	80	303
Multipurpose (3)	80	550	33	934	7.5	5.6	10	7.5	80	303
Automatic (4)	60	414	46	1303			15	11.2	80	303

1. Pressure while torch is in operation.
2. Accommodates flat electrodes.
3. Generally considered a foundry torch.
4. Requires some kind of mechanical manipulation.

### PERMISSIBLE NOISE EXPOSURE

Ear protection is recommended when noise from the air carbon arc process exceeds permissible levels as listed in OSHA 1910.95

Duration Per Day	Sound Level DBA (in hours) Slow Response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/4 or less	115

## WELDING ELECTRODES

### MILD STEEL COATED ELECTRODES

<b>E7018-X</b>	<b>E</b>	Indicates that this is an electrode
	<b>70</b>	Indicates how strong this electrode is when welded. Measured in thousands of pounds per square inch.
	<b>1</b>	Indicates in what welding positions it can be used.
	<b>8</b>	Indicates the coating, penetration, and current type used. (See Classification Table below)
	<b>X</b>	Indicates that there are more requirements. (See Additional Requirements below)

### WELDING POSITIONS

- 1** Flat, Horizontal, Vertical (up), Overhead
- 2** Flat, Horizontal
- 4** Flat, Horizontal, Overhead, Vertical (down)

Flat Position - usually groove welds, fillet welds only if welded like a "V"  
 Horizontal - Fillet welds, welds on walls (travel is from side to side).  
 Vertical - welds on walls (travel is either up or down).  
 Overhead - weld that needs to be done upside down.

### CLASSIFICATION TABLE

Class	Electrode Coating	Penetration	Current Type
Exxx0	Cellulose, Sodium	Deep	DCEP
Exxx1	Cellulose, Potassium	Deep	AC, DCEP
Exxx2	Rutile, Sodium	Medium	AC, DCEN
Exxx3	Rutile, Potassium	Light	AC, DCEP, DCEN
Exxx4	Rutile, Iron Powder	Medium	AC, DCEP, DCEN
Exxx5	Low Hydrogen, Sodium	Medium	DCEP
Exxx6	Low Hydrogen, Potassium	Medium	AC, DCEP
Exxx7	Iron Powder, Iron Oxide	Medium	AC, DCEN
Exxx8	Low Hydrogen, Iron Powder	Medium	AC, DCEP
Exxx9	Iron Oxide, Rutile, Potassium	Medium	AC, DCEP, DCEN

### ADDITIONAL REQUIREMENTS

Suffix	Additional Requirement
<b>-1</b>	Increased toughness (impact strength) for E7018 electrodes. Also increased ductility in E7024 electrodes.
<b>-M</b>	Meets most military requirements - greater toughness, lower moisture content as received after exposure, diffusible hydrogen limits for weld metal.
<b>-H4</b> <b>-H8</b> <b>-H16</b>	Indicates the maximum diffusible hydrogen limit measured in millimeters per 100 grams (mL/100g). The 4, 8, and 16 indicates what the limit is. Example: -H4 = 4mL per 100 grams

### LOW ALLOY STEEL COATED ELECTRODES

<b>E7018-X</b>	<b>E</b>	Indicates that this is an electrode
	<b>70</b>	Indicates how strong this electrode is when welded. Measured in thousands of pounds per square inch.
	<b>1</b>	Indicates in what welding positions it can be used.
	<b>8</b>	Indicates the coating, penetration, and current type used. (See Classification Table above)
	<b>X</b>	Indicates what alloys are in this electrode. (See Suffix Table page 73)

### WELDING POSITIONS

Same as for Mild Steel Coated Electrodes (above)

### CLASSIFICATION

Same as for Mild Steel Coated Electrodes (above)



### WELDING ELECTRODES

#### LOW ALLOY STEEL COATED ELECTRODES, CONT'D.

##### SUFFIX TABLE

Suffix	Steel Alloy Type	Suffix Number Description	
-A1	Carbon-Molybdenum	0.40 - 0.65 Mo	
-B1	Chromium-Molybdenum	0.40 - 0.65 Cr	0.40 - 0.65 Mo
-B2	Chromium-Molybdenum	1.00 - 1.50 Cr	0.40 - 0.65 Mo
-B2L	Chromium-Molybdenum	Lower Carbon B2	
-B3	Chromium-Molybdenum	2.00 - 2.50 Cr	0.90 - 1.20 Mo
-B3L	Chromium-Molybdenum	Lower Carbon B3	
-B4L	Chromium-Molybdenum	1.75 - 2.25 Cr	0.40 - 0.65 Mo
-B5	Chromium-Molybdenum	0.40 - 0.60 Cr	1.00 - 1.25 Mo
-B6	was E502	4.6 - 6.0 Cr	0.45 - 0.65 Mo
-B8	was E505	8.0 - 10.5 Cr	0.8 - 1.2 Mo
-C1	Nickel Steel	2.00 - 2.75 Ni	
-C1L	Nickel Steel	Lower Carbon C1	
-C2	Nickel Steel	3.00 - 3.75 Ni	
-C2L	Nickel Steel	Lower Carbon C2	
-C3	Nickel Steel	0.80 - 1.10 Ni	
-NM	Nickel-Molybdenum	0.80 - 1.10 Ni	0.40 - 0.65 Mo
-D1	Manganese-Molybdenum	1.00 - 1.75 Mn	0.25 - 0.45 Mo
-D2	Manganese-Molybdenum	1.65 - 2.00 Mn	0.25 - 0.45 Mo
-D3	Manganese-Molybdenum	1.00 - 1.80 Mn	0.40 - 0.65 Mo
-W	Weathering Steel	Ni, Cr, Mo, Cu	
-G		No required chemistry	
-M	Military grade	May have more requirements	

Class	Min. Tensile Strength	Min. Yield Strength
E60xx	62,000 psi	50,000 psi
E70xx	70,000 psi	57,000 psi
E80xx	80,000 psi	67,000 psi
E90xx	90,000 psi	77,000 psi
E100xx	100,000 psi	87,000 psi
E110xx	110,000 psi	95,000 psi
E120xx	120,000 psi	107,000 psi

##### CHEMICAL SYMBOLS FOR THE ELEMENTS

C	Carbon	Most effective hardening element in steel
Mn	Manganese	Hardening element second to carbon
Si	Silicon	Deoxidizer, moderate strengthener
P	Phosphorus	Causes cracking if too high
S	Sulfur	Aids in machining - Cracking problems like P
Cr	Chromium	Hardness (low) - corrosion resistance (high)
Ni	Nickel	Hardening element - better cold toughness
Mo	Molybdenum	Hardenability - high temp tensile - creep strength
B	Boron	Very small amounts increase hardness
Cu	Copper	Corrosion resistance (low) - cracking (high)
Al	Aluminum	Deoxidizer - improves mechanical properties
Ti	Titanium	Removes: Oxygen, S, N, and C
N	Nitrogen	Improves strength - lowers toughness
Cb	Columbium	Hardness - Improves mechanical properties
V	Vanadium	Hardness - Improves mechanical properties

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