FOR HEAVY DUTY JOBS — WELDER, GENERATOR AND AIR COMPRESSOR



KEY FEATURES

Choose the Air Vantage® 800 for high output applications, including mining industry repair. When necessary, arc gouge with up to 1/2 in. [12.7 mm] carbons. The Air Vantage 800 is great for large diameter wire welding, including .120 in. [3.0 mm] Innershield® and most 3/32 in. [2.4 mm] Lincore® hardfacing wires.

- · Rotary Screw Air Compressor powers arc gouging, plasma cutting and other air tools
- · Select from one of five welding process modes
- · Plenty of AC Generator power
- · Stainless steel enclosure adds durability

Processes »

Stick, TIG, MIG, Flux-Cored, Gouging

Output »







Input »



Product Number » K2961-5



FEATURES

» Rotary Screw Compressor

VMAC° brand rotary screw air compressor rated at 60 SCFM, 100 PSI, 100% duty cycle, delivers abundant air for arc gouging with up to 1/2 in. (12.7 mm) carbons, plasma cutting and air tools such as an impact gun.

» Multi-Process Welding, Separate Arc Gouge Mode Select one of five process modes, including CC-stick, downhill pipe (for stick), DC Touch Start TIG®, CV-wire or arc gouging mode which maximizes output with up to 1/2 in. (12.7 mm) carbon rods.

» Plenty of AC Generator Power

20 kW continuous 3-phase 240V AC generator power will operate industrial equipment such as plasma cutters, pumps, inverter welders and grinders.

12 kW continuous 1-phase AC generator power for common construction tools and lights.

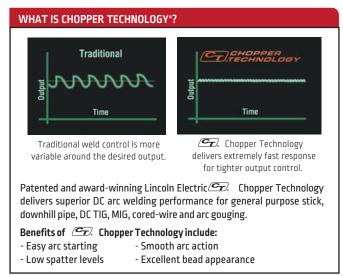
» Stainless Steel Enclosure

Standard stainless steel roof, side panels and engine-access door deliver added protection, durability and corrosion-resistance. Eliminates need to replace these items due to paint damage or rust.

PERFORMANCE

Arc Performance

 650 amps at 100% duty cycle and capable of 800 amps at 100% duty cycle using Chopper Technology*. All ratings are at temperatures of 104°F/40°C. Derated outputs for higher temperatures and high altitude.



- VRD® (Voltage Reduction Device™) reduced OCV (Open Circuit Voltage) in CC-stick, CV-wire and arc gouging welding modes for added safety.
- Arc gouging mode maximizes output for up to 1/2 in. [12.7 mm] carbon rods.
 Easy starts, especially with VRD™ on.
- CC-stick mode is optimized for general purpose stick using E7018 low hydrogen electrode.
- Excellent CV wire welding with cored-wire and MIG (CO₂ and mixed gas).

WHAT IS VRD?

The VRD® (Voltage Reduction Device) provides additional safety in the CC-stick, CV-wire and arc gouging weld modes, especially when working in an environment with a higher risk of electrical shock such as wet areas and hot, humid, sweaty conditions. The VRD reduces the OCV at the welding output terminals while not welding to less than 30 volts DC.

The VRD is activated by flipping a toggle switch inside the machine to the "ON" position. Indicator lights monitor the voltage: green for less than 30 volts while not welding, and either red (greater than 30 volts) or green while welding, depending on the actual voltage of the arc.

Other weld modes when VRD is on:

Downhill Pipe - There is no output.

Touch Start TIG — No difference in operation. TIG is normally a low voltage (less than 30 volts) operation.



VRD portion of nameplate with green light on.

- Built-in "hot" start in CC-stick and CV-wire modes for easier starts and restrikes minimizing the electrode "sticking" to the work.
- Downhill pipe mode has arc force control for enhanced pipe welding.
 The pipe mode is excellent for cellulosic electrodes and facilitates fast travel speeds, especially on fill passes. Adjust the arc force for a soft, buttery arc or a more forceful digging arc.
- Standard DC Touch Start TIG® welding, not scratch start, for easy arc starting that avoids tungsten contamination and the need for high-frequency.

Air Compressor Performance

- Compressor is belt-driven from the engine using a magnetic clutch. Includes an automatic belt tensioner for optimal compressor performance. A pressure sensor avoids excessive clutch wear by preventing clutch engagement when high compressor back pressure exists.
- The compressor can be conveniently turned on or off with an easy-toreach toggle switch located on the control panel. The full output of 28.3 liters/second (60 SCFM) is available when the engine is set to high idle mode, or 18.9 liters/second (40 CFM) of output in low idle mode.
- The air shut-off valve can easily be closed for connecting and disconnecting an air hose. The valve is located in a recessed area below the control panel for convenient access and protection against accidental impact.
- A minimum pressure air check valve is included to improve compressor shutdown when the compressor shut-off valve is occasionally left open.

- The compressor automatically shuts down for high temperature. An indicator light on the control panel turns on for this condition. The compressor automatically becomes operational when the temperature returns to normal.
- Compressor maintenance items such as filters are easily accessed in the single-side-service engine compartment. The drain connection for the valve and compressor oil is located in the base of the engine compartment. Recommended 500-hour maintenance intervals minimize system service frequency.
- An optional field-installed air filter kit minimizes water content in the supply air. This avoids cold weather air hose ice up. The compact kit installs on the case side of the Air Vantage 800 or to a nearby service truck wall.

Generator Performance

- Simultaneously weld and use 3-phase AC power for example, up to 12,000 watts can be delivered while welding up to 400 amps. Compare to competitive product which has 3-phase power available as an extra-cost factory-only option.
- 3-phase 240V receptacle on control panel eliminates the need to hard-wire the connections. Compare to competitive product which usually requires hard-wired connections.
- The Air Vantage 800 provides added value at the job site by delivering up to 12,000 watts of 1-phase AC auxiliary power for equipment such as a Lincoln Electric plasma cutter. Also use for lights, grinders and other common construction tools. Compare this to the common competitive standard of 4,000 watts of single phase AC power. No expensive options are required to add significant generator capacity.
- Simultaneously weld and use AC power the full 12,000 watts (1 or 3-Phase) can be delivered while welding up to 400 amps. Plug in a Lincoln Electric Invertec® V275-S for a second arc.
- Nominal 120V and 240V AC generator voltage is independent of any weld dial setting.
- 120V receptacles are GFCI (Ground Fault Circuit Interrupter) protected with sealed GFCI units.
- All receptacles are circuit breaker protected. Each receptacle has a spring-loaded weather cover which keeps each receptacle protected when not in use.

FEATURES

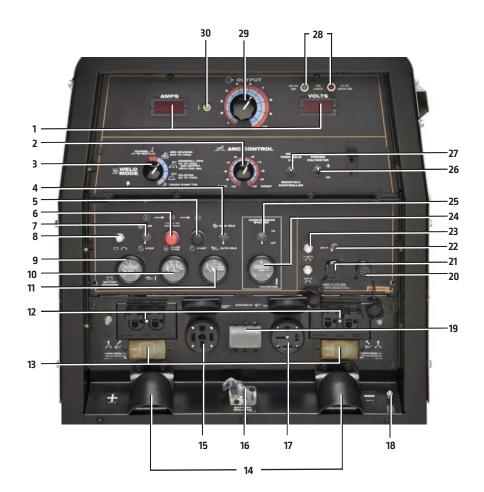
- Single-side engine and compressor access for routine maintenance. Lockable, sliding door located on the right side of the machine opens easily in tight surroundings.
- Simple Controls Keep training time to a minimum with the straightforward control panel of the Air Vantage 800. The flip-down control panel door keeps less frequently used dials out of the way.
- 69 hp Cummins® B3.3T Turbo-Charged diesel engine. Engine is 4-cylinder, water-cooled and has plenty of power.
- Glow plugs for cold weather starting.
- Digital meters for amps and volts output make it easy to precisely set your procedures. Fuel, oil pressure and engine temperature gauges keep you on top of monitoring engine performance.
- · Automatic engine idler for greater fuel economy and reduced noise.
- Engine start switch at mid-section of control panel for easy reach on truck-mounted units.
- · Large 95 liter (25 gallon) fuel tank provides run time for all day use: 9 hours of arc gouging at 650A/40V/60% duty cycle output with the compressor also operating at 60% duty cycle.
- Engine hour meter makes it easy to schedule maintenance.
- Patented lockable radiator cap access door to prevent radiator tampering is standard.
- Lockable battery disconnect switch provides lockout/tagout capability. The switch is conveniently located below the control panel.
- · 12V battery jump-start/battery charge feature is standard. Use cable connection study to jump-start or charge a 12 volt utility truck battery with up to 800 cold-cranking amps. Or, use the studs to jump-start the

- Air Vantage 800. Covered output studs are located in recessed area below control panel for convenient access and protection against accidental impact.
- Output at welding terminals is controlled by an electronic contactor. It can be switched to "Weld Terminals On" or to "Remotely Controlled".
- · Automated Remote Control Capability Output at welding terminals is automatically switched from the machine to the remote mode when a remote device is connected (standard 6 pin connector). For the CC-stick, downhill pipe and Touch Start TIG modes, the machine output dial becomes a maximum current limit for more fine tuning with the remote control dial or Amptrol™.
- LN-25 Ironworker[™] across-the-arc wire feeder is a recommended option.
- · Compatible with many Lincoln Electric wire feeders with control cables LN-25 PRO Dual Power, LF-72, LF-74, LN-7 GMA, FlexFeed™ 74 HT. Also compatible with the Magnum® SG Spool Gun System, NA-3 Control, LT-7 Tractor and Activ8[™] across-the-arc wire feeder.
- · Two Air Vantage 800 units can be paralleled in the CC-stick mode to increase welding output.
- Oil drain valve and tube directs used engine oil away from the base into an oil pan.
- · Combination muffler/spark arrestor is standard on the machine.
- · Attractive and durable black paint on base, and front and back panels.
- · Kilowatts available for Multi-Weld® 350 use: 29 kW @ 60 VDC.

QUALITY AND RELIABILITY

- Dependability and long life are aided by all-copper windings in rotors and stators with high quality insulation.
- Printed circuit boards are environmentally-shielded using Lincoln Electric's engineered potting and protective frame trays.
- Simple wire harnessing keeps connections to a minimum for greater reliability. Lead and harness strain reliefs on all control connections help ensure trouble-free performance.
- Engine protection system includes automatic shutdown for low oil pressure or high engine temperature. Indicator light turns on for either condition.
- Engine battery indicator light turns on for low/no battery charging.
- Weld output thermal overload light turns on for this condition and shuts off weld output to protect the welding system components.
- Engine air cleaner and compressor air cleaner both have service indicators to provide a GO/NO-GO visual indication of useful service life of the filter.
- Circuit breaker on the 12V battery circuit provides added component protection.

- Engine has a closed breather system to keep the engine compartment and ground clean. This system eliminates oil mist from collecting inside the engine compartment, especially on surfaces that would lower engine cooling efficiency.
- Self-bleeding engine simplifies startup if your fuel tank runs dry. Manual fuel line bleeding is usually not necessary.
- Weather-protective instruction manual container provides storage and convenient access to equipment operator's manual.
- Metal shipping skids can be left attached to keep the machine from resting on damp ground and for easier fork lift transport. The metal skids can be removed for truck-mounted machines.
- Canadian Standards Association (CSA) certified.
- Manufactured under a quality system certified to ISO 9001 requirements and ISO 14001 environmental standards.
- Three-year Lincoln Electric warranty on welder (engine and compressor are warranted separately by the manufacturers).



- 1. Digital Amps and Volts Output Meters
- 2. Arc Force & Inductance/Pinch Control Dial
- 3. Weld Mode Selector Switch
- 4. Engine Idler Switch
- 5. Start Pushbutton
- 6. Glow Plug Button
- 7. Run/Stop Switch
- 8. Battery Circuit Breaker
- 9. Fuel Gauge/Engine Hour Meter with Battery Charging and Engine Protection Lights
- 10. Engine Temperature Gauge
- 11. Oil Pressure Gauge
- 12. 120 VAC Receptacles
- 13. GFCI Modules
- 14. Covered Weld Output Terminals + and -
- 15. 120/240 VAC Full-KVA 1-Phase Receptacle
- 16. Battery Disconnect Switch
- 17. 240 VAC Full-KVA 3-Phase Receptacle
- 18. Ground Stud
- 19. 240V 3-Phase Circuit Breaker
- 20. 6-Pin Remote Control Connector
- 21.14-Pin Wire Feeder Connector
- 22. 42V/115V Wire Feeder Toggle Switch
- 23. Wire Feeder Circuit Breakers
- 24. Compressor Hour Meter and Protection Light
- 25. Compressor ON/OFF Switch
- 26. Wire Feeder Voltmeter Polarity Switch
- 27. Welding Terminals Control Switch
- 28. VRD™ Indicator Lights
- 29. Output Control Dial
- 30. Weld Output Thermal Overload Light

COMPRESSOR SPECIFICATIONS							
Compressor Model	Description	Delivery	Maximum System Pressure	Compressor Protection	Capacities		
VMAC° (6)	Belt-Driven Rotary Screw Air Compressor	High Idle Mode: 60 SCFM @ 100 PSI [28.3 liters/sec. @ 7.0 kg/cm	150 PSI [10.5 kg/cm²]	Safety Relief Valve 200 PSI 14.0 kg/cm²	Oil: 1.3 gals (5.0 liters) ^{II}		
		Low Idle Mode: 40 SCFM @ 100 PSI [18.9 liters/sec. @ 7.0 kg/cm		High Temperature Automatic Shutdown 290° F (143°C)			

Warranty is 3 years/3,000 hours whichever comes first for the compressor and 1 year/1,000 hours whichever comes first for the clutch, idler roll and automatic belt tensioner.

ENGINE SPECIFICATIONS							
Engine Model	Description	Horsepower & Displacement	Dry Capacities	Operating Speeds	Fuel Consumption		
Cummins* B3.3T [®] EPA Tier 4i	4 Cylinder, 4 Cycle, Water-Cooled Turbo-Charged Diesel Engine, 12V Electric Start, Two-Stage Dry Type Air Cleaner, Fuel Filter with Water Separator	69 HP @ 1860 RPM 199 cu. in. (3.3 liters)	FUEL: 25 gals (95 liters) OIL: 8.0 qts (7.6 liters) COOLANT: 16.0 qts. (15.1 liters)	600A Load with compressor 600A Load 1860 RPM High Idle 1860 RPM Low Idle 1500 RPM	3.9 Gal/Hr 14.8 liters/Hr 2.9 Gal/Hr 11.1 liters/Hr 1.1 Gal/Hr 4.2 liters/Hr 0.7 Gal/Hr		

⁽⁸⁾ Cummins* warranty is 3 years/3,000 hours for all components, 3 years/10,000 hours for major components.

	MACHINE SPECIFICATIONS								
Product Name	Ordering Information	Description	CC/Pipe/TIG/Gouge Rated Output ⁽¹⁾ Current/Voltage/Duty Cycle	CV Rated Output (1) Current/Voltage/Duty Cycle	AC Power ⁽³⁾⁽⁴⁾	Dimensions HxWxL inches (mm)	Weight lbs.(kg)		
Air Vantage 800	K2961-5	650 Amp DC Welder with Air Compressor and AC Generator 12,000 Watts AC Power 1-Phase 20,000 Watts AC Power 3-Phase	DC Constant Current At 40° C 650A/44V/100% 700A/42V/100% 800A/36V/100% 30-700 Amps DC Pipe Current 300A/32V/100% 40-300A DC Touch Start TIG 250A/30V/100% 20-250 Amps DC Arc Gouge 800A/36V/100% 90-800 Amps Single Dial Continuous Control 60V DC Max OCV @1860 RPM	DC Constant Voltage ^[2] At 40° C 650A/44V/100% 700A/42V/100% 800A/36V/100% 14-44V Single Dial Continuous Control Wire Feeder Power 120V/60Hz 42V/60Hz	20,000 Watts 60 Hz Two 120V Duplex GFCI Receptacles [Sealed GFCI Units] 20A Per Duplex 40A Total [5] 1-Phase, Full KVA Receptacle 50A@240V 50A@120V Each Branch Circuit [5] 3-Phase, Full KVA Receptacle 50A @ 240V	36.9 x 28.5 x 77.0 (937 x 724 x 1956) To top of exhaust tube: 45.2 (1149) Metal skid width: 28.9 (734)	2018 (915)		

High altitude: For maximum rating derate the output 5% for every 1,640 ft. (500 m) above 1,312 ft. (400 m). High temperature: For maximum rating derate 2 volts for every 21°F (10°C) above 104°F (40°C).

VMAC° synthetic compressor oil recommended for best operation results, or oil approved by VMAC°.

DC constant voltage capability provides convenience and added safety when welding in electrically hazardous conditions. When welding, available auxiliary power will be reduced. Output voltage is within +/- 10% at all loads up to rated capacity.

¹²⁰V will operate either 60 Hz or 50/60 Hz power tools, lights, etc.

Circuits cannot be wired in parallel to operate the same device.



GENERAL OPTIONS

Power Plug Kit (20A)

Provides four 120V plugs rated at 20 amps each, and one dual voltage, full KVA (1-phase) plug rated at 120/240V, 50 amps, 120V plug may not be compatible with common household recentacles. Order K802N



Full-KVA Power Plug (1-Phase) One dual voltage plug rated at 120/240V, 50 amps. NEMA 14-50P. Order T12153-9



Full-KVA Power Plug (3-Phase) One plug rated at 240V, 50 amps. NEMA 15-50P. Order T12153-10



Full-KVA Adapter Kit (1-Phase)

Provides convenient connection of Lincoln Electric equipment having a 240V AC 1-phase plug (NEMA 6-50P) to the full-KVA receptacle on Lincoln Electric engine-driven welders.

Order K1816-1



Shown with optional K2639-1 Fender & Light Kit

Large Welder Trailer

For heavy-duty road, off-road, plant and yard use. Includes pivoting jack stand, safety chains, and 14 in. (356 mm) wheels. Stiff .120 in. (3.0 mm) welded rectangular steel tube frame construction is phosphate etched and powder coat painted for superior rust and corrosion resistance. Low sway suspension gives outstanding stability with manageable tongue weight. Wheel bearings are packed with high viscosity, high pressure, low washout Lubriplate® grease. Includes a Duo-Hitch® - a 2 in. (51 mm) Ball/Lunette Eve combination hitch. Overall width 60 in. (1524 mm). Overall length 124 in. (3150 mm).

Order: K2637-2 Trailer K2639-1Fender & Light Kit K2640-1 Cable Rack



For off-road, plant and yard use. Includes an automatically engaging drawbar lock when the drawbar is raised to the verticle position. 13 in. (330 mm) wheels. Wheel bearings are packed with high viscosity, high pressure, low washout Lubriplate® grease. Stiff 3/16 in. (4.8 mm) welded rectangular steel frame construction is phosphate etched and powder-coat painted for superior rust and corrosion resistance. Also includes a Duo-Hitch® – a 2 in. (51 mm) Ball/ Lunette Eye combination hitch. Overall width 55 in. (1397 mm). Overall length 124 in. (3150 mm). Order K2641-2



Air Filter Kit

Reduces water, oil aerosols, oil vapor and particulates from compressed air. Also reduces the risk of rust in tools, tip wear in plasma cutters and frequency of tip changes. Mounting bracket and hose included. Order K3088-1



Polarity/Multi-Process Switch

For easy polarity switching. Example: DC-stick root pass on pipe & DC+ stick for hot, fill and cap passes. Also for an easy process change Example: DC+ stick root pass on pipe & DC-Innershield® selfshielded flux-cored wire for hot. fill and cap passes. 6-pin & 14-pin remote connections can be made to this unit. For all Lincoln Electric Chopper Technology® engine-driven welders. Mounts on roof with K2663-1 Docking Kit.

Order K2642-1



Docking Kit

Secures the K2642-1 Polarity/Multi-Process Switch to the engine-driven welder roof. Release latch permits removal of K2642-1 Polarity/Multi-Process Switch. Made from stainless steel for rust-free operation. For all Lincoln Electric Chopper Technology® engine-driven welders. Order K2663-1



STICK OPTIONS

Accessory Kit

Includes 35 ft. (10.7 m) 2/0 electrode cable with lug, 30 ft. (9.1 m) 2/0 work cable with lugs, headshield, filter plate, cover plate, work clamp and electrode holder. 400 amp capacity.

Order K704



Wired Remote Control

Includes detachable 125 ft. (38.1 m) cable. Customizable MIN/MAX Range.

Order: K4330-1



Wired Remote Control with **Auxiliary Power**

Includes a 115V duplex receptacle to power lights and tools. 25 ft. (38.1 m) cable. Customizable MIN/ MAX Range.

Order K4268-1



TIG OPTIONS

Pro-Torch™ PTA-26V TIG Torch Air-cooled 200 amp torch (2 piece) equipped with valve for gas flow control. 25 ft. [7.6 m] length. Order K1783-9



Magnum Parts Kit for PTA-26V TIG Torch

Provides all the torch accessories you need to start welding. Includes collets, collet bodies, a back cap, alumina nozzles and tungstens in a variety of sizes, all packaged in an easy to carry reclosable sack. Order KP509



Foot Amptrol™

Varies current while welding for making critical TIG welds and crater filling. Depress pedal to increase current. Depressing pedal fully achieves maximum set current. Fully raising the pedal finishes the weld and starts the afterflow cycle on systems so equipped. Includes 25 ft. [7.6 m] control cable. Order K870



Hand Amntrol™

Provides 25 ft. (7.6 m) of remote current control for TIG welding. (6-pin plug connection). Velcro straps secure torch. Order K963-3 (one size fits all Pro-Torch™ TIG Torchesì



Square Wave TIG 200

This 46 lb (21 kg) TIG and stick welder includes adjustable AC Frequency Control and AC Balance for great results on aluminum, pulse mode and 120V or 230V input power capability.

Order K5126-1

Order K2614-9



WIRE FEEDER OPTIONS

LN-25 Ironworker™ Wire Feeder Portable CV unit for flux-cored and MIG welding with MAXTRAC® wire drive system. Includes digital meters for wire feed speed/ amperage and voltage, gas solenoid, internal contactor and 5/64 in. (2.0 mm) drive roll kit for cored wire. Has 83% reduced wire feed speed capability for 6 o'clock pipe welding with Innershield® wire.



RECOMMENDED ACCESSORIES



WIRE FEEDER OPTIONS, CONT'D.

K126 PRO Innershield® Gun For LN-25

For self-shielded wire with 15 ft. (4.5 m) cable. For .062-5/64 in. (1.6-2.0 mm) wire. Includes K466-10 Connector Kit Order K126-12



Magnum PRO 350 Ready-Pak® 15 ft., .035-5/64 in. For LN-25

Magnum PRO MIG/flux-cored welding guns are rated 100% duty cycle. The guns are designed for high amperage, high duty cycle applications in extreme environments where heat resistance and fast serviceability are key. Order K2652-2-10-45



Drive Roll and Guide Tube Kit For LN-25 For .068-.072 in. (1.7-1.8 mm) cored or solid steel wire Order KP1697-068



Drive Roll and Guide Tube Kit For LN-25

For .035 in. and .045 in. (0.9-1.1 mm) solid steel wire. Order KP1696-1



FlexFeed™74 HT Wire Feeder

Heavy duty industrial semiautomatic wire feeder for general and structural fabrication. Order K3883







SG Control Module

The interface between the power source and the spool gun. Provides control of the wire speed and gas flow. For use with a spool gun. Order K488



Input Cable

(For SG Control Module) For Lincoln Electric power sources with 14-pin MS-type connection, separate 115V NEMA receptacles and output stud connections. Order K691-10



PLASMA CUTTING

Tomahawk® 1000 Cuts metal using the AC generator power from the engine-driven welder. Requires the T12153-9 Full-KVA Power Plug (1-Phase). Order K2808-1

For best welding results with Lincoln Electric equipment, always use Lincoln Electric consumables. Visit www.lincolnelectric.com for more details.

Manufactured at a facility with certified ISO Quality and Environmental Management Systems.

CUSTOMER ASSISTANCE POLICY

The business of The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements

Subject to Change - This information is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.com for any updated information.

