

# Vantage<sup>®</sup> 500

## Processes

Stick, TIG, MIG, Flux-Cored, Gouging

## Product Number

K2405-2

See back for complete specs

## Output Range

See Back Page

## Rated Output Current/Voltage/Duty Cycle

500A/40V/100%

550A/36V/60%

575A/35V/50%

## Number of Cylinders

4

## HP @ Speed (RPM)

48 HP @ 1800 RPM

## Weight/Dimensions (H x W x D)

1532 lbs. (695 kg)

42.0 x 31.5 x 63.1 in.

(1067 x 800 x 1603 mm)

50.8 in. (1290 mm) To Top of Exhaust Tube

## Multi-Process Powerhouse!

This multi-process powerhouse features standard stainless steel roof and side panels, simple controls and  Chopper Technology<sup>®</sup> to deliver the low maintenance, long service life, easy operation and great arc performance every owner appreciates.

### FEATURES

#### ▶ Corrosion-Resistant Stainless Steel Case

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

#### ▶ Multi-Process Welding

- Select one of four process modes, including CC-stick, downhill pipe (for stick), DC Touch Start TIG<sup>®</sup> or CV wire, and then dial in the desired output.

#### ▶ Arc Gouging

- Arc gouging with up to 3/8 in. (9.5 mm) carbons.

#### ▶ Plenty of AC Generator Power

- 20 kW continuous 3-phase 240V AC generator power rated at output will power industrial equipment such as a plasma cutter, pump, inverter welder or grinder.
- 12 kW continuous 1-phase AC generator power for common construction tools and lights.

#### ▶ Industrial Diesel Engine

- 4 cylinder 1800 RPM Deutz<sup>®</sup>.
- 25 gallon (95 liter) fuel tank.
- Fuel, oil pressure and engine temperature gauges.



Shown K2405-2

### APPLICATIONS

- ▶ Construction
- ▶ Maintenance and Repair
- ▶ Rental Fleet

#### INPUT



#### OUTPUT



Two Year Extended Warranty Available in the U.S.A. and Canada.



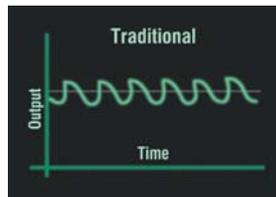
**Arc Performance**

- 500 amps @ 100% duty cycle and capable of 575 amps at 50% duty cycle. All ratings are at temperatures of 104°F/40°C.
- CC-stick mode is optimized for general purpose stick using E7018 low hydrogen electrode.
- Built-in “hot” start 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 equipment.
- Excellent CV wire welding with cored-wire and MIG (CO<sub>2</sub> and mixed gas).

**Generator Performance**

- 3-phase 240V AC generator power rated at 20 kW continuous output to power industrial equipment such as a plasma cutter, pump, inverter welder or grinder. Simultaneously weld and use 3-phase AC power—for example, up to 12,000 watts can be delivered while welding up to 250 amps.
- 3-phase 240V receptacle on control panel eliminates the need to hard-wire the connections. Matching plug included ( T12153-10 NEMA 15-50P). Compare to competitive product which usually requires hard-wired connections.
- The Vantage® 500 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 plasma cutter. Also use for lights, grinders and other common construction tools. And, you can simultaneously weld and have access to AC power – The full 12,000 watts can be delivered while welding at up to 250 amps. Plug in a Lincoln Electric Invertec® V275-S inverter for a second arc.
- Compare this to the common competitive standard of 4,000 watts. No expensive options are required to add significant generator capacity.
- Nominal 120V and 240V AC generator voltage is independent of any weld dial setting.
- Two 120V GFCI (Ground Fault Circuit Interrupter) duplex receptacles. Circuit breaker protection.

**WHAT IS CHOPPER TECHNOLOGY®?**



*Traditional weld control is more variable around the desired output.*



*Chopper Technology® delivers extremely fast response for tighter output control.*

Patented and award-winning Lincoln Electric Chopper Technology® delivers superior DC arc welding performance for general purpose stick, downhill pipe, DC TIG, MIG, cored-wire and arc gouging.

**Benefits of Chopper Technology® include:**

- Easy arc starting
- Smooth arc action
- Low spatter levels
- Excellent bead appearance

**WHAT IS TOUCH START TIG®?**

Touch Start TIG® uses a very low voltage to sense when the tip of the tungsten electrode is touched to the work piece. When this occurs, a complete circuit is established. When the tungsten is then raised from the work piece, the circuit senses a change in voltage and initiates the appropriate welding current and voltage to support the TIG welding process.

Enjoy the added benefits of Lincoln Electric’s Touch Start TIG® when DC TIG welding. Not only do you avoid tungsten contamination when arc starting, but you also don’t need extra high frequency equipment.

**SIMULTANEOUS WELDING AND AC GENERATOR POWER**

Weld Amps		1-Phase Watts Amps		3-Phase Watts Amps		Simultaneous 1- and 3-Phase Watts Amps	
0		12000	50	20000	50	----	50
100		12000	50	17800	43	----	50
200		12000	50	14000	34	----	50
250	AND	12000	50	12000	29	OR	12000
300		10000	42	10000	24		10000
400		5600	23	5600	13		5600
500		0	0	0	0		0

## FEATURES

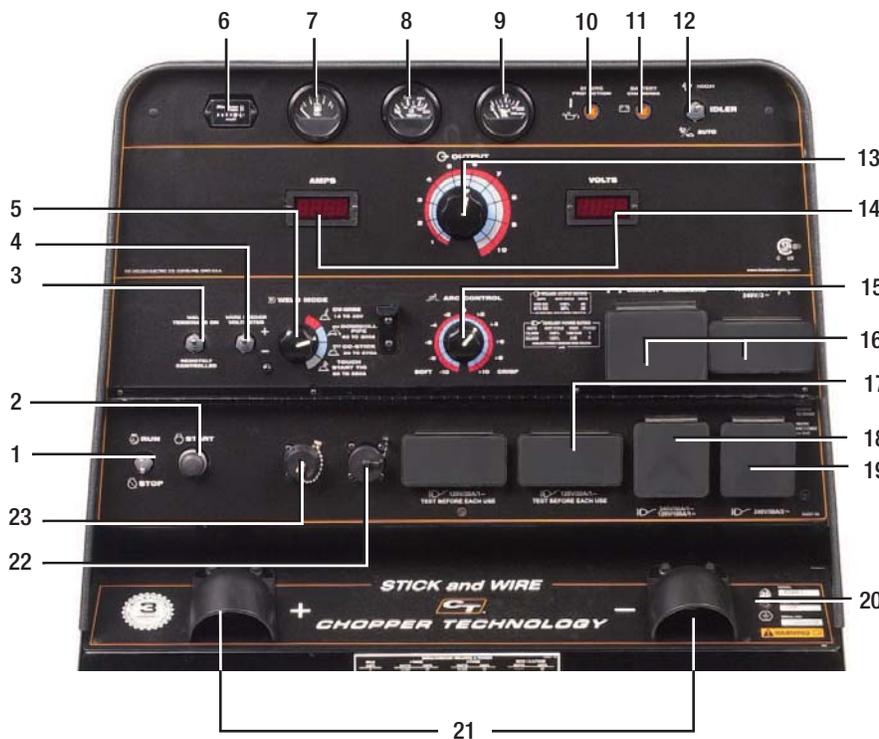
- Simple Controls – Keep training time to a minimum with the straightforward control panel of the Vantage® 500. The flip-down control panel door keeps less frequently used dials out of the way. Scratch-resistant Lexan® nameplate.
- Digital meters for amps and volts output make it easy to precisely set your procedures.
- Fuel, oil pressure and engine temperature gauges keep you on top of monitoring engine performance.
- 48 horsepower oil/air-cooled 4 cylinder Deutz® D2011 L4i engine has an automatic idler for greater fuel economy and reduced noise.
- Single-sided engine access for routine maintenance. A double hinged door located on the right side of the machine opens easily in tight surroundings.
- Large 25 gallon (95 liter) fuel tank provides run time for an extended day
  - 13 hours of welding at 500A/40V/100% duty cycle output, or 31 to 38 hours at high idle.
- Engine hour meter makes it easy to schedule maintenance.
- Output at welding terminals controlled by electronic contactor. 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 remote mode when remote device is connected (standard 6-pin connector). For the **NEW!** 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 Amprol™.



Automated Remote Control Capability

- LN-25 Ironworker™ across-the-arc wire feeder is a recommended option.
- 14-pin connector for Lincoln Electric wire feeders with control cables: LF-72, LN-8, LN-15, LN-25 PRO Dual Power and LN-742. Also compatible with the Magnum® SG Spool Gun System, NA-3 Control and LT-7 Tractor.
- Two Vantage® 500 units can be paralleled in the CC-stick mode to increase output.
- Oil drain valve and tube to direct used engine oil away from the base into a pan.
- Kilowatts available for Multi-Weld® 350 use: 5 kW @ 60 VDC, 12 kW @ 58 VDC.

## KEY CONTROLS



1. Run/Stop Switch
2. Start Pushbutton
3. Welding Terminals Control Switch
4. Wire Feeder Voltmeter Polarity Switch
5. Weld Mode Selector Switch
6. Hour Meter
7. Fuel Level Gauge
8. Engine Temperature Gauge
9. Oil Pressure Gauge
10. Engine Protection Light
11. Engine Battery Charging Light
12. Engine Idler Switch
13. Output Control Dial
14. Digital Amps and Volts Output Meters
15. Arc Force & Inductance/Pinch Control Dial
16. Circuit Breakers
17. 120VAC GFCI Receptacles
18. 120/240 VAC Full-KVA 1-Phase Receptacle
19. 240 VAC Full-KVA 3-Phase Receptacle
20. Ground Stud
21. Covered Weld Output Terminals + and -
22. 14-Pin Wire Feeder Connector
23. 6-Pin Remote Control Connector

## QUALITY AND RELIABILITY

- Printed circuit boards are environmentally-shielded using Lincoln Electric's engineered potting and protective frame trays.
- Dependability and long life are aided by all-copper windings in rotor and stator with high quality insulation.
- 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 low oil pressure, high engine temperature or broken cooling blower belt. A second indicator light turns on if the engine battery charging system malfunctions.



- Circuit breaker protection on the battery ignition system provides added component protection.
- Environmentally friendly engine. The 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.
- Approved by the Canadian Standards Association (CSA).
- Manufactured under a quality system certified to ISO 9001 requirements and ISO 14001 environmental standards.
- Three-year Lincoln Electric warranty on welder (engine is warranted separately by the manufacturer).

## MACHINE SPECIFICATIONS

Product Name	Ordering Information	Description	CC/Pipe-Rated DC Output <sup>(1)</sup> Current/Voltage/Duty Cycle	CV Rated Output <sup>(1)</sup> Current/Voltage/Duty Cycle	AC Power <sup>(3)(4)</sup>	Dimensions H x W x L inches (mm)	Weight lbs. (kg)
Vantage® 500	K2405-2	500 Amp DC Welder with Digital Meter Output Display & Engine Gauges  12,000 Watts AC Power 1-Phase  20,000 Watts AC Power 3-Phase	<b>DC Constant Current</b> 500A/40V/100% 550A/36V/60% 575A/35V/50% 30-575 Amps  <b>DC Pipe Current</b> 300A/32V/100% 40-300A  <b>Touch Start TIG® Range</b> 250A/30V/100% 20-250 Amps  Single Dial Continuous Control 60V DC Max OCV @1900 RPM	<b>DC Constant Voltage<sup>(2)</sup></b> 500A/40V/100% 550A/36V/60% 575A/35V/50%  14-40V Single Dial Continuous Control  <b>Wire Feeder Power</b> 120V/60Hz 42V/60Hz	12,000 Watts 60 Hz  Two 120V Duplex GFCI Receptacles 20A Per Duplex 40A Total <sup>(5)</sup>  1-Phase Full KVA Receptacle 50A@240V 50A@120V Each Branch Circuit <sup>(5)</sup>  3-Phase Full KVA Receptacle 50A@240V	42.0 x 31.5 x 63.1 (1067 x 800 x 1603)  <i>To top of exhaust tube: 50.8 (1290)</i>	1532 (695)

<sup>(1)</sup> High Altitude: For maximum rating derate the output 5% for every 1,000 ft. (300 m) above 4,900 ft. (1,500 m). For output up to 500 A, derate 5% for every 1,000 ft. (300 m) above 6,900 ft. (2,100 m). High Temperature: For maximum rating derate 2 volts for every 21°F (10°C) above 104°F (40°C).

<sup>(2)</sup> DC constant voltage capability provides convenience and added safety when welding in electrically hazardous conditions.

<sup>(3)</sup> When welding, available auxiliary power will be reduced. Output voltage is within +/- 10% at all loads up to rated capacity.

<sup>(4)</sup> 120V will operate either 60 Hz or 50/60 Hz power tools, lights, etc.

<sup>(5)</sup> Circuits cannot be wired in parallel to operate the same device.

## ENGINE SPECIFICATIONS

Engine Model	Description	Horsepower & Displacement	Capacities	Operating Speeds	Fuel Consumption
Deutz® D2011 L4i <sup>(6)</sup>	4 Cylinder, 4 Cycle Oil/Air-Cooled Diesel Engine 12V Electric Start Two-Stage Dry Type Air Cleaner, Fuel Filter with Water Separator EPA Tier 4i	48 HP @ 1800 RPM  190 cu in (3.1 ltrs)	FUEL: 25 Gals (95 Ltrs) OIL: 10.0 Qts (9.5 Ltrs)	<b>500A Load</b> 1800 RPM <b>High Idle</b> 1890 RPM <b>Low Idle</b> 1425 RPM	2.0 Gal/Hr 7.5 Ltr/Hr 0.6 Gal/Hr 2.4 Ltr/Hr 0.5 Gal/Hr 1.8 Ltr/Hr

<sup>(6)</sup> Deutz® warranty is 2 years/2,000 hours for all components, 3 years/3,000 hours for major components.

**One-Pak® Welding Package**

Order a Lincoln Electric One-Pak® and get everything you need to complete a welding package - all with one order number. (Package requires assembly.)

**Unassembled Package Contains:**

- Vantage® 500
- Medium Welder Trailer (K2636-1)
- Duo-Hitch™ 2 in. (51 mm) Ball/Lunette Eye Hitch (included)
- Fender and Light Kit (K2639-1)
- Cable Rack (K2640-1)
- Cable Connectors, two (K2487-1)
- Electrode Cable 3/0, two 50 ft. (15.3 m) lengths (K2485-3)
- Electrode Cable 3/0, 10 ft. (3 m) (K2483-3)
- Work Cable 3/0, 50 ft. (15.3 m) (K2484-3)
- 400A Electrode Holder (K909-8)
- 500A Work Clamp (K910-2)

**Order:**  
**K2288-3 Vantage® 500 Deutz® One-Pak® Package**



Vantage® 500



K2636-1 Medium Welder Trailer



Duo-Hitch™ 2 in. (51 mm) Ball/Lunette Eye Hitch (included)



K2640-1 Cable Rack

**Ready-Pak® Welding Package**

Order a Lincoln Electric Ready-Pak® and get an assembled welding package.

**Completely Assembled Package Contains:**

- Vantage® 500
- Medium Welder Trailer (K2636-1)
- Duo-Hitch™ 2 in. (51 mm) Ball/Lunette Eye Hitch (included)
- Fender and Light Kit (K2639-1)
- Cable Rack (K2640-1)
- Cable Connectors, two (K2487-1)
- Electrode Cable 3/0, two 50 ft. (15.3 m) lengths (K2485-3)
- Electrode Cable 3/0, 10 ft. (3 m) (K2483-3)
- Work Cable 3/0, 50 ft. (15.3 m) (K2484-3)
- 400A Electrode Holder (K909-8)
- 500A Work Clamp (K910-2)

**Order:**  
**K2290-3 Vantage® 500 Deutz® Ready-Pak® Package**



Completely Assembled Ready-Pak® Package



120V



**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 receptacles.

Order **K802N**



**Full-KVA Power Plug (1-Phase)**

One dual voltage plug rated at 120/240V, 50 amps. NEMA 14-50R.

Order **T12153-9**



**Medium Welder Trailer**

For heavy-duty road, off-road, plant and yard use. Includes pivoting jack stand, safety chains, and 13 in. (330 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 Eye combination hitch. Overall width 60 in. (1524 mm). Overall length 124 in. (3150 mm).

Order:  
**K2636-1** Trailer  
**K2639-1** Fender & Light Kit  
**K2640-1** Cable Rack



**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**



**Remote Output Control**

Consists of a control box with choice of two cable lengths. Permits remote adjustment of output.

Order **K857** for 25 ft. (7.6 m)  
**K857-1** for 100 ft. (30.5 m)



**Remote Output Control with 120V AC Receptacles**

Remote weld output control box with two 120V AC receptacles having GFCI (Ground Fault Circuit Interrupter) protection. One cord for both remote and power. 100 ft. (30.5 m) length. Permits remote adjustment of weld output and power for tools (such as a grinder) at the work. 20 amp capacity.

Order **K2627-2**

**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**

Magnum® Parts Kit provides all the torch accessories you need to start welding. Parts Kit provides 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™**

Provides 25 ft. (7.6 m) of remote output control for TIG welding. (6 pin plug connection).

Order **K870**



**Hand Amptrol™**

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 Torches)



**Square Wave™ TIG 175**

For AC TIG Welding with square wave performance, use the AC generator of the engine-driven welder to supply the power (full rated output may not be available). Easy setup. Includes torch, foot Amptrol™ and gas regulator and hose. Requires the K1816-1 Full KVA Adapter Kit.

Order **K1478-5**



**Invertec® V205-T AC/DC One-Pak® Package**

For AC TIG welding with square wave performance, use the AC generator of the engine-driven welder to supply the power. Easy setup. Includes torch, parts kit, regulator and hose kit, Twist Mate™ torch adapter, work cable with Twist Mate™ end and Foot Amptrol™.

Order **K2350-2**



**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 engine-driven welders.

Order **K1816-1**



**Ether Start Kit**

Provides maximum cold weather starting assistance for frequent starting below 10°F (-12°C). Required ether tank is not provided with kit.

Order **K887-1**



**Spark Arrestor Kit**

Mounts to muffler exhaust tube. Virtually eliminates spark emissions.

Order **K1847-1**

**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.  
**Order K2614-9**



**K126 PRO Innershield® Gun**  
 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**



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



**Magnum® PRO 350 Ready-Pak® 15 ft., .035-5/64 in.**  
 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 .035 in. and .045 in. (0.9-1.1 mm) solid steel wire.  
**Order KP1696-1**



**Magnum® SG Spool Gun**  
 Hand held semiautomatic wire feeder. Requires SG Control Module and Input Cable.  
**Order K487-25**



**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 engine power sources with 14-pin MS-type connection, separate 115V NEMA receptacles and output stud connections.  
**Order K691-10**

**PLASMA CUTTING**



**Tomahawk® 625**  
 Cuts metal using the AC generator power from the engine-driven welder. Requires the K1816-1 Full KVA Adapter Kit.  
**Order K2807-1**



**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**

## PRODUCT SPECIFICATIONS

Product Name	Product Number	Rated Output Current/Voltage/Duty Cycle	Output Range	Engine Model	Number of Cylinders	HP@ Speed (rpm)	H x W x D inches (mm)	Net Weight lbs (kg)
Vantage® 500	K2405-2	500A/40V/100%	30-575A DC	Deutz® D2011 L4i	4	48 @ 1800	Machine only	1532 (695)
Vantage® 500 One-Pak®	K2288-3	550A/36V/60%	40-300A Pipe	Diesel			42.0 x 31.5 x 63.1 (1067 x 800 x 1603)	
Vantage® 500 Ready-Pak®	K2290-3	575A/35V/50%	20-250A DC TIG 14-40V CV 3-Phase AC Power: 20 kW Continuous 1-Phase AC Power: 12 kW Continuous	EPA Tier 4i			To top of exhaust tube: 50.8 (1290)	

For best welding results with Lincoln Electric equipment,  
always use Lincoln Electric consumables. Visit [www.lincolnelectric.com](http://www.lincolnelectric.com) for more details.

### 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.

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