Vantage® 500-I

Processes
Stick, TIG, MIG, Flux-Cored, Gouging

Product Number
K2805-1

See back for complete specs

Output Range
See Back Page

Rated Output – Current/Voltage/Duty Cycle
At 40º C
500A/30V/40%
450A/34V/60%
400A/36V/100%
Desert Duty™ Rated – See Page 4

Number of Cylinders
4

HP @ Speed (RPM)
32.7 HP @ 1800 RPM

Weight/Dimensions (H x W x D)
1230 lbs. (559 kg)

35.9 x 25.3 x 60.0 in.
(913 x 642 x 1524 mm)
46.2 in. (1174 mm) To Top of Exhaust Tube

Compact, Multi-Process, Desert Duty™ Rated

If you are looking for a rugged, reliable and capable welder for demanding construction, pipe or repair applications, take a close look at the Vantage® 500-I.

EXPORT ONLY – NOT FOR SALE IN THE U.S.A. AND CANADA



Shown K2805-1

FEATURES

- **Compact Case with Stainless Steel Enclosure**
  - One of the most compact 500 amp machines available. Suitable for many pickup and service trucks.
  - Standard stainless steel roof, side panels and engine-access door deliver added protection and durability.
- **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 8.0 mm carbon rods.
- **Desert Duty™ Rated**
  - Rated welding outputs for extreme temperature operation up to 55ºC.
- **Plenty of AC Generator Power**
  - 19 kW peak (17 kW continuous) 3-phase 240V AC generator power. Will power industrial equipment such as a plasma cutter, pump or inverter welder for a second arc.
  - Operate common construction tools with up to 4.2 kW 120V power (NEMA and European receptacles) or 3.6 kW 240V 1-phase power (European receptacle).

APPLICATIONS

- **Construction**
- **Pipe**
- **Maintenance and Repair**

INPUT

D

OUTPUT

CC CV | DC | 19P kW

Perkins®

THE LINCOLN ELECTRIC GREEN INITIATIVE
Engine Emissions Standard
EPA Tier 4i Compliant
www.lincolnelectric.com/green

LINCOLN ELECTRIC 3 YEAR WARRANTY AÑOS DE GARANTIA ANS DE GARANTIE

MANUFACTURED AT AN ISO 9001:2000 14001:2004 CERTIFIED FACILITY

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LINCOLN® ELECTRIC
THE WELDING EXPERTS®

PERFORMANCE

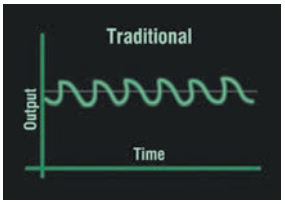
Arc Performance

- Multi-process welding - Select one of five process modes, including CC-stick (up to 6.3 mm), downhill pipe (for stick), DC Touch-Start TIG®, CV-wire (up to 2.4 mm, with 2.4 mm E70T-6 up to 6.6 m/minute, 27V) or arc gouging mode which maximizes output with up to 8.0 mm carbon rods.
- Lincoln Electric CT Chopper Technology® for superior arc performance.
- 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 with active arc force control - enhanced downhill pipe welding mode. Excellent for cellulosic electrodes. Fast travel speeds, especially on fill passes. Arc control adjustment 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 use of high-frequency equipment.
- Excellent CV wire welding with cored-wire and MIG (CO_2 and mixed gas).

Generator Performance

- 3-phase 240V AC generator power rated at 19 kW peak (17 kW continuous) output to power industrial equipment such as a plasma cutter, pump or inverter welder such as a Lincoln Electric Invertec® V275-S for a second arc. Simultaneously weld and use 3-phase AC power–for example, up to 9,400 watts can be delivered while welding at 300 amps. Compare to competitive product which has 3-phase power available as an extra-cost factory-only option.
- Run 200 amps from the Invertec® V275-S and 200 amps from the Vantage® 500-I at the same time, for two arcs.
- 3-phase 240V NEMA receptacle on control panel eliminates the need to hard-wire the connections. Matching plug available.
- The Vantage® 500-I provides added value at the job site by delivering up to 4,200 watts of 1-phase AC auxiliary power for equipment such as lights, grinders and other common construction tools. You can simultaneously weld and have access to AC power–4,200 watts can be delivered while welding at 300 amps.
- AC generator voltage is constant at 120V or 240V at any weld dial setting.
- Two 120V GFCI modules sealed from moisture for more reliable operation. One for the NEMA duplex receptacle and one for the European style receptacle.
- 240V AC European style receptacle with RCD (Residual Current Device) ready port for conveniently adding a customer-supplied RCD.
- All receptacles are circuit breaker protected. Each single-phase receptacle has a spring-loaded weather protective cover which keeps each receptacle protected from the environment when not in use.

WHAT IS CHOPPER TECHNOLOGY®?



Traditional weld control is more variable around the desired output.



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

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

Benefits of CT 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 (120V) Watts	Amps		1-Phase (240V) Watts	Amps		3-Phase Watts	Amps		Both 1- and 3-Phase Watts	Amps
0	PLUS	4,200	35	OR	3,600	15	OR	17,000	41	OR	-	50
100		4,200	35		3,600	15		15,400	37		-	50
200		4,200	35		3,600	15		13,000	31		-	50
300		4,200	35		3,600	15		9,400	23		4,700	-
400		1,700	14		1,700	7		3,400	8		1,700	-
500		0	0		0	0		0	0		0	-

FEATURES



Single-side engine access with lockable sliding door.



Convenient slide-out battery drawer below control panel.



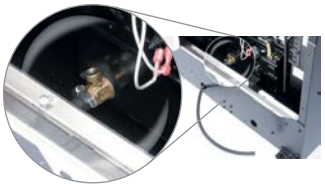
Fuel, oil pressure and engine temperature gauges help you monitor performance.



NEMA and European style receptacles with RCD-ready port.



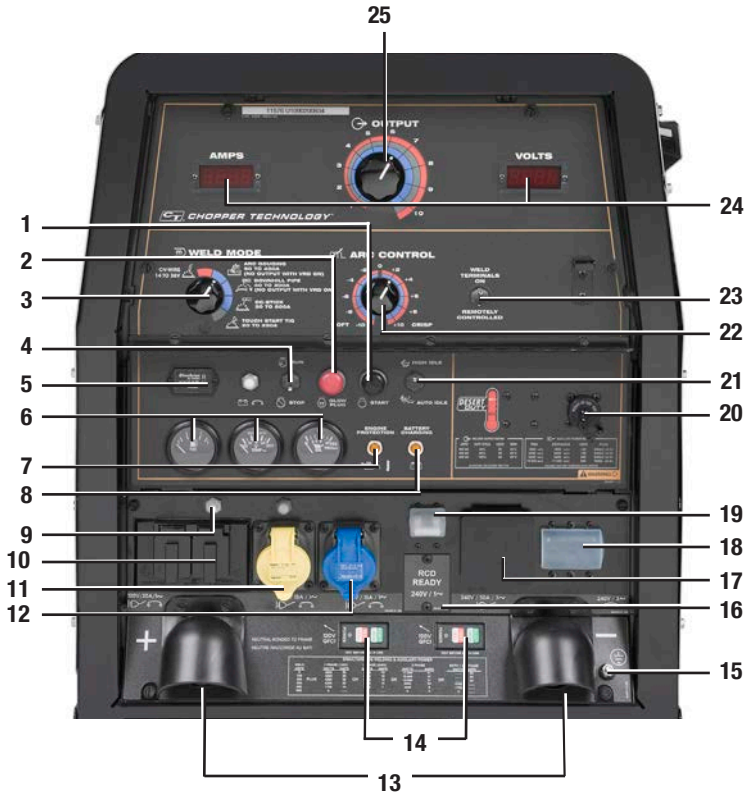
Output automatically switches to remote mode when remote device is connected. For the CC-stick, downhill pipe and Touch Start TIG® modes, the machine output dial becomes a maximum current limit for more fine tuning with the remote control dial or Amptrol™.



Handy oil drain valve and tube makes oil changes easy.

- Simple controls – Keeps training time to a minimum. The flip-down control panel door keeps less frequently used dials out of the way. Scratch-resistant Lexan® nameplate.
- Digital weld meters for amps and volts output make it easy to precisely set procedures.
- Large 76 liter (20 gallon) fuel tank provides run time for an extended day – over 16 hours of welding at 400A/36V/100% duty cycle output, or 36 hours at high idle.
- Great engine choice – 32.7 horsepower water-cooled 4 cylinder Perkins® 404D-22 diesel engine. Engine has an automatic idler for greater fuel economy and reduced noise, and a glow plug button for cold weather starting.
- Engine hour meter for scheduled maintenance.
- LN-25 Ironworker™ across-the-arc wire feeder is a recommended option.
- Two Vantage® 500-I units can be paralleled in the CC-stick mode to increase output.
- Kilowatts available for Multi-Weld® 350 use: 6 KW @ 60 VDC, 8.7 KW @ 58 VDC.

KEY CONTROLS



1. Start Pushbutton
2. Glow Plug Button
3. Weld Mode Selector Switch
4. Run/Stop Switch
5. Hour Meter
6. Fuel Level, Engine Temperature and Oil Pressure Gauges
7. Engine Protection Light
8. Engine Battery Charging Light
9. 120V AC Circuit Breakers
10. 120V AC NEMA Receptacles
11. 120V AC European Receptacle
12. 240V AC 1-Phase European Receptacle
13. Covered Weld Output Terminals + and -
14. Sealed GFCI Modules
15. Ground Stud
16. RCD-Ready Port Cover
17. 240V AC NEMA Full-KVA 3-Phase Receptacle
18. 240V AC 3-Phase Circuit Breaker
19. 240V AC 1-Phase Circuit Breaker
20. 6-Pin Remote Control Connector
21. Engine Idler Switch
22. Arc Force and Inductance/Pinch Control Dial
23. Welding Terminals Control Switch
24. Digital Amps and Volts Output Meters
25. Output Control Dial

NOTE: Control panel door not shown.

LINCOLN ELECTRIC
THE WELDING EXPERTS®

QUALITY AND RELIABILITY

- 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 or high engine temperature. 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.
- Environmental friendly engine! 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.
- Perkins® engine camshaft is gear-driven. No timing belt maintenance.
- Printed circuit boards are environmentally-shielded using potting compound and protective frame trays.



- Dependability and long life aided by all-copper windings in rotor and stator with high quality insulation.
- Standard stainless steel roof, side panels and engine-access door deliver added protection, durability and corrosion-resistance. Eliminates the need to paint or replace rusting panels.
- 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[1] Current/Voltage/Duty Cycle	CV Rated Output[1] Current/Voltage/Duty Cycle	AC Power[3][4]	Dimensions H x W x L inches (mm)	Weight lbs.(kg)
Vantage® 500-I	K2805-1	500 Amp DC Welder with Engine Gauges 19,000 Watts Peak 17,000 Watts Continuous AC Power 3-Phase 4,200 Watts Continuous AC Power 1-Phase	**DC Constant Current** **At 40º C** 500A/30V/40% 450A/34V/60% 400A/36V/100% **Desert Duty™ Rated** 350A/36V/30%/55ºC 400A/34V/30%/50ºC 450A/32V/30%/45ºC 30-500A **DC Pipe Current** 300A/32V/100% 40-300A **Touch-Start TIG® Range** 250A/30V/100% 20-250A **Arc Gouge** 400/36V/100% 90-450A **Single Dial Continuous Control** 60V DC Max OCV @1880 RPM	**DC Constant Voltage[2]** **At 40º C** 500A/30V/40% 450A/34V/60% 400A/36V/100% **Desert Duty™ Rated** 350A/36V/30%/55ºC 400A/34V/30%/50ºC 450A/32V/30%/45ºC 14-36V Single Dial Continuous Control	19,000 Peak Watts, 60 Hz 120V Duplex NEMA Receptacle with Sealed GFCI Module 20A Per Duplex[5] 120V European Receptacle with Sealed GFCI Module 15A 240V 1-Phase European Receptacle 15A 240V 3-Phase Full KVA Receptacle 41A	35.9 x 25.3 x 60.0 (913 x 642 x 1524) *To top of exhaust tube: 46.2 (1174)*	1230 (559)

(1) High Altitude: For maximum rating, derate the output 2.5% to 3.5% for every 1,000 ft. (300 m).
(2) DC Constant Voltage capability provides convenience and added safety when welding in electrically hazardous conditions.
(3) When welding, available auxiliary power will be reduced. Output voltage is within +/- 10% at all loads up to rated capacity.
(4) 120V will operate either 60 Hz or 50/60 Hz power tools, lights, etc.
(5) Circuits cannot be wired in parallel to operate the same device.

ENGINE SPECIFICATIONS

Engine Model	Description	Horsepower & Displacement	Dry Capacities	Operating Speeds	Fuel Consumption
Perkins® 404D-22 EPA Tier 4i[6]	4 Cylinder, 4 Cycle Water-Cooled Diesel Engine, 12V Electric Start, Dry Type Air Cleaner, Fuel Filter with Water Separator, Mechanical Governor	32.7 HP @ 1800 RPM 136 cu. in. (2.2 ltrs)	FUEL: 20 Gals (76 Ltrs) OIL: 11.2 Qts (10.6 Ltrs) RADIATOR COOLANT: 8.0 Qts (7.6 Ltrs)	**400A Load** 1800 RPM	1.2 Gal/Hr 4.5 Ltr/Hr
				High Idle 1880 RPM	0.4 Gal/Hr 1.6 Ltr/Hr
				Low Idle 1400 RPM	0.3 Gal/Hr 1.0 Ltr/Hr

(6) Perkins® warranty is 2 years/2,000 hours for all components, 3 years major non-electric components. See warranty for details.

SYSTEM SELECTION

One-Pak® Welding Package (Unassembled)
Get a welding package with one order number. Only major items shown.

Order K3243-3 Vantage® 500-I Perkins® One-Pak® Package - Export

Each Package Contains:

- Vantage® 500-I
- 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)



Run 200 amps from the Invertec® V275-S and 200 amps from the Vantage® 500-I at the same time for two arcs.



Vantage® 500-I



K2640-1 Cable Rack



K2636-1 Medium Welder Trailer



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

RECOMMENDED ACCESSORIES

GENERAL OPTIONS



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



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



Four-Wheeled Steerable Yard Trailer
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



Spark Arrestor Kit
Mounts to muffler exhaust tube. Virtually eliminates spark emissions.
Order K903-1



Cold Weather Kit
For engine starting and operation in extreme cold weather conditions down to -40°F (-40°C) (with the use of 0W40 synthetic oil and arctic diesel fuel). Includes 120V AC oil pan heater (NEMA plug), 120V AC engine block heater (NEMA plug), and radiator grill tarp.
Order K2679-1 for Perkins®



Polarity/Multi-Process Switch
For easy polarity switching. Example: DC-stick root pass on pipe and DC+ stick for hot, fill and cap passes. Also for an easy process change. Example: DC+ stick root pass on pipe and DC- Innershield® self-shielded flux-cored wire for hot, fill and cap passes. 6-pin and 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

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RECOMMENDED ACCESSORIES

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



Invertec V275-S
Get a second arc for stick or DC TIG welding from the 3-phase AC generator power of the Vantage® 500-I. Run 200 amps from the Invertec® V275-S and 200 amps from the Vantage® 500-I at the same time. Requires T12153-10 Full-KVA 3-phase plug. See bulletin E2.161 for Invertec® V275-S accessories including welding output cable plug options.
Order K2269-1 (Accepts Twist Mate™ Plugs)
Order K2269-3 (Accepts Tweco® Plugs)
Tweco® is a registered trademark of Thermadyne Holdings, Inc.

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)

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 and 1.1 mm) solid steel wire.
Order KP1696-1

PRODUCT SPECIFICATIONS

Product Name	Product Number	Rated Output Current/Voltage/ Duty Cycle	Output Range	Engine	Number of Cylinders	HP@ Speed (rpm)	H x W x D inches (mm)	Net Weight lbs. (kg)
Vantage® 500-I	K2805-1	**At 40º C** 500A/30V/40% 450A/34V/60% 400A/36V/100%	30-500A DC 40-300A Pipe 20-250A DC TIG 14-36V CV 90-450A Gouge **3-Phase AC Power:** 19 kW Peak, 17 kW Continuous **1-Phase AC Power:** 3.6 kW 240V, 4.2 kW 120V	Perkins® 404D-22 Diesel EPA Tier 4i	4	32.7 @ 1800	35.9 x 25.3 x 60.0 (913 x 642 x 1524) *To top of exhaust tube: 46.2 (1174)*	1230 (559)
Vantage® 500-I One-Pak®	K3243-3	DESERT DUTY **Desert Duty™ Rated** 350A/36V/30%/55ºC 400A/34V/30%/50ºC 450A/32V/30%/45ºC						—

For best welding results with Lincoln Electric equipment, always use Lincoln Electric consumables. Visit 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.

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.

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