

Air Vantage® 500

It's Three in One – Welder, Generator and Air Compressor

When you need it all, consider the rugged Air Vantage® 500 for mining, heavy-duty construction, on-site maintenance and rental fleet use. The VMAC® rotary screw compressor pumps out plenty of air for arc gouging with up to 9.5mm carbons, plasma cutting or almost any air tool. A powerful 500 amps at 100% duty cycle is enough for almost any stick, TIG, MIG or flux-cored welding project. The precision arc starting provided by Lincoln Chopper Technology® and Touch-Start™ DC TIG will make any operator a better welder.

Simple controls and Chopper Technology® deliver the low maintenance, long service life, easy operation and the great arc performance every owner demands in these environments.

This multi-process powerhouse features 500 amps at 100% duty cycle, tested at temperatures up to 40°C. Don't pay extra for plenty of AC 240V auxiliary power – this unit delivers 12,000 watts in addition to the built-in compressor delivering an impressive 60CFM @ 100psi.

You can depend on legendary engine reliability from Cummins® and superior Lincoln arc performance.

Processes

Stick, TIG, MIG, Flux-cored, Gouging

Description



Advantage Lincoln

• Rotary Screw Compressor

– VMAC® rotary screw compressor rated at 60 CFM, 100PSI, 100% duty cycle, delivers abundant air for arc gouging with up to 9.5mm carbons, plasma cutting (plasma cutter sold separately) and air tools such as an impact wrench or needle gun.

• Simple to operate

– Select one of three Process Modes, including CC-Stick, Touch-Start™ TIG or CV Wire, and then dial in the desired output.

• Optimised CC-Stick mode

– CC-Stick mode is optimised for general purpose and E7018 low hydrogen electrodes.

• Arc control adjustment

– Produces a soft, buttery arc or a more forceful, digging arc to suit your requirements.

• Touch-Start™ DC TIG welding

– Provides easy arc starting that avoids tungsten contamination and the use of high frequency.

• 12kVA of auxiliary power

– 2 x 240V, 15A IP66 rated outlets for powering tools, grinders and lighting.



• Digital Volt/Amp meters

– Built-in preset function makes it easy to precisely set your procedures.

• Arc gouging

– Arc gouging with up to 9.5mm carbons.

• Full instrumentation

– Fuel, oil pressure, engine temperature gauges and hour meter keep you on top of monitoring engine performance.

• Cummins® B3.3 diesel engine

– 56 horsepower, liquid-cooled, 4 cylinder Cummins® B3.3 engine, includes automatic engine idler for greater fuel economy and reduced noise.

• VRD Device

– Factory-fitted, built-in voltage reduction device (VRD) offers additional protection for the operator. The VRD operates in the CC mode reducing the OCV to a safer <12 volts, increasing operator safety when welding is performed in environments with increased hazard of electric shock.

• Stainless steel enclosure

– Standard stainless steel roof, side panels and engine access door deliver added protection and durability.

• Lincoln Electric's three-year, parts and labour warranty

– Engine is warranted separately by the manufacturer.

Order

K32012

Air Vantage® 500

TECHNICAL SPECIFICATIONS

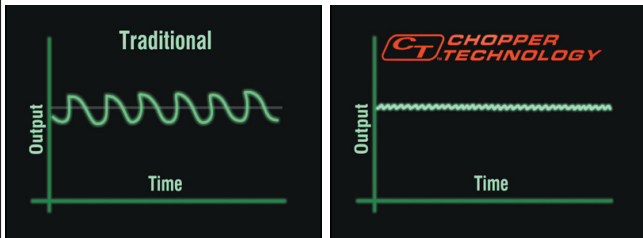
Model	Output Range	CV Output	AC Aux Power	Rated Output*	Engine Model	No of Cylinders	HP & Speed (rpm)	Weight Kg	Dimensions H x W x D mm
Air Vantage® 500	Continuous Control 30-575 Amps CC/CV Range 15-250 Amps Touch Start™ TIG Range	14-40 volts	12kW Receptacles 2 x 240V, 15A IP66	500A, 40V @ 100% 550A, 36V @ 60% 575A, 35V @ 50%	Cummins® B3.3 liquid-cooled diesel engine 12V electric start	4	56 @1800	785	1290 x 831 x 1603

PERFORMANCE

Arc Performance

- **500 amps @100% duty cycle** and capable of 575 amps at 50% duty cycle with all the benefits of Chopper Technology®. All ratings are at temperatures of 40°C.

WHAT IS CHOPPER TECHNOLOGY®?



Patented and award-winning Lincoln  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
- **Arc gouging with up to a 9.5mm carbons.**
 - **VRD (Voltage Reduction Device)** reduces OCV (open circuit voltage) in CC-stick welding mode for added safety.
 - **CC-Stick mode is optimised** for general purpose stick using E7018 low hydrogen electrode.
 - **Built-in “hot” start** for easier starts and restrikes which minimises the electrode “sticking” to the work.

- **Standard Touch-Start™ DC 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 (CO₂ and blended gas). 2.4mm E70T-6 up to 260 IPM, 27V.

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'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.

WHAT IS VRD?

The VRD (Voltage Reduction Device) provides additional safety in the CC-Stick weld mode, 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 (open circuit voltage) at the welding output terminals to less than 32 volts DC when not welding.

Indicator lights monitor the voltage: green for less than 32 volts while not welding, and either red (greater than 32 volts) or green while welding, depending on the actual voltage of the arc.

AIR COMPRESSOR PERFORMANCE

- **VMAC® brand rotary screw direct-drive compressor** rated at 60 CFM, 100 PSI, 100% duty cycle delivers abundant air for carbon arc gouging, plasma cutting (plasma cutter sold separately) and air tools such as an impact gun.



VMAC® Air Compressor

- **Patent-pending direct gear-driven compressor** efficiently converts engine horsepower to usable output. No belts to change. No magnetic clutch to wear out.
- **Compressor can be conveniently turned on or off** with an easy to reach toggle switch located on the control panel. Full output of 60 CFM available when engine is set to high idle mode, 40 CFM of output in low idle mode.

- **Air shut-off valve** can easily be closed for connecting and disconnecting an air hose. Valve is located in recessed area below control panel for convenient access and protection against accidental impact.



Air shut off valve

- **Automatic tcompressor shutdown for high compressor temperature.** Indicator light turns on for this condition.
- **Compressor maintenance items such as filters are easily accessed** in the single-side-service engine compartment. Drain connection for valve and compressor oil located in base of engine compartment. 500-hour maintenance intervals for infrequent servicing of the system.
- **Optional field-installed air dryer kit minimises water content in the supply air.** Avoids cold weather air hose ice up. Kit installs inside Air Vantage® 500 for a compact operation.

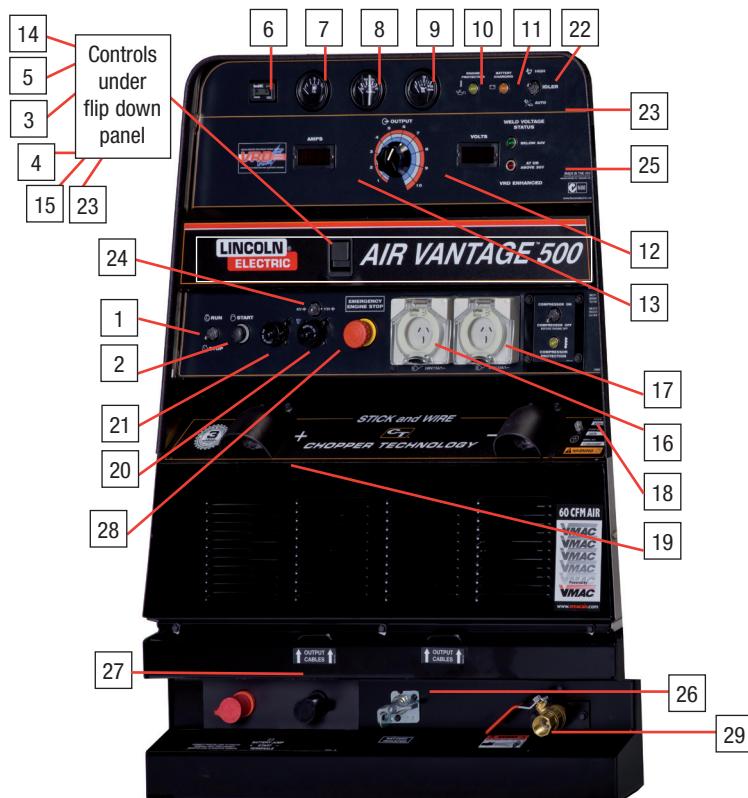
FEATURES

- **Large 95 litre fuel tank** provides run time for an extended day – 12 hours of welding at 500A / 40V / 100% duty cycle output, or 28 hours at high idle.
- **Simple controls** – Keep training time to a minimum with the straight forward control panel of the Air Vantage® 500. The flip-down control panel door keeps less frequently used dials out of the way.
- **Output at welding terminals controlled by electronic contactor** - Can be switched to “Weld Terminals On” or to “Remotely Controlled”.
- **Automated remote control capability** – Output control is automatically switched from the machine to the remote mode when a remote device is connected. (Standard 6 pin connector).
- **14-pin connector for Lincoln wire feeders LF-72, LF-74 and LN™-8.** Also compatible with the NA-3 Control, LT-7 Tractor, Multi-Weld® 350 and LN™-25PRO.
- **12-Volt battery jump-start/battery charge feature is standard.** Use cable connection studs to jump-start or charge a 12 volt utility truck battery with up to 800 cold-cranking amps. Alternatively, use the studs to jump-start the Vantage® 575. Covered output studs located in recessed area below control panel for convenient access and protection against accidental impact.
- **Sliding Engine-Access Door** - Lockable engine-access door slides open for easy access in tight spaces.
- **Lockable battery disconnect** switch provides lockout/tagout capability.
- **Patented lockable radiator cap access door** to prevent radiator tampering is standard.
- **Oil drain valve and tube** to direct used engine oil away from base into pan.
- **Sound Rating** – No load high idle 79.1 dBA @ 7m, Loaded 80.7 dBA @ 7m
- **Two Air Vantage® 500 units can be paralleled** in the CC-Stick Mode to increase output.

QUALITY AND RELIABILITY

- **Printed circuit boards are trayed and potted** to provide a robust environmental shield.
- **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, high engine temperature or low engine alternator voltage.
- **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.
- **240V outlets** are IP66 rated and RCD protected.
- **Circuit breaker protection** on the battery ignition system provides added component protection.
- **Engine camshafts** are gear driven – no timing belt maintenance.
- **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 start-up if your fuel tank runs dry. Manual fuel line bleeding is usually not necessary.
- **Cummins® B3.3 gear-driven engines** - no timing belt maintenance.
- **Three-year Lincoln parts and labour warranty.** (Engine is warranted separately by the manufacturer.)

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. Output Control Dial
13. Digital Amps and Volts Output Meters
14. Arc Force & Inductance Pinch Control Dial
15. Circuit Breakers
16. 240 Volts
17. 240 Volts
18. Ground Stud
19. Covered Weld Output Terminals + and -
20. 14-Pin Wire Feeder Connector
21. 6-Pin Remote Control Connector
22. Idler Switch
23. RCD
24. 42V/115V Wire Feeder Voltage Switch
25. VRD indicator lights
26. Battery isolator Switch
27. Battery jump start terminals
28. Engine stop
29. Air Shut off valve

STICK OPTIONS

Welding Leads

Electrode lead 50mm² 10m c/w twist-lock holder
Order KA1452-8

Work return lead 50mm² 9m c/w work clamp
Order KA1452-7

Pigtail 50mm² c/w lug & female mechconnector
Order KA1452-1

Electrode lead 70mm² 10m c/w twist-lock holder
Order KA1452-10

Work return lead 70mm² 9m c/w work clamp
Order KA1452-9

Extention lead 70mm² 10m c/w male 7 female mechconnector
Order KA1452-4

Pigtail 70mm² c/w lug & female mechconnector
Order KA1452-12



Remote Output Control

Permits remote adjustment of output.

Order K857 8.5m lead & 6 pin plug
K857-1 30m lead and 6 pin plug

WIRE FEEDER OPTIONS



LF-72 Wire Feeder

A heavy-duty, semi-automatic wire feeder designed for CV MIG and FCAW welding.

Order K2327-7



LN™-25 PRO Wire Feeder

Portable CC/CV unit for flux-cored and MIG welding. Includes Gas Solenoid & Internal Contactor.

Order K2613-1A1 includes bonus K126 gun
K2613-1A2 includes bonus Magnum® 400 gun



Magnum® 350 Innershield® Gun (for LN™-25 PRO)

For self-shielded wire with 4.5m cable. For 1.7 – 2.4mm wire.

Order K126

PLASMA CUTTING OPTIONS



Invertec® PC210

Cuts up to 10mm using the 240V AC generator power from the Air Vantage® 500.

Order K12038-2

TIG OPTIONS



Invertec® V205-T AC/DC

For AC TIG welding with square wave performance, use the AC generator of the engine-driven welder to supply the power.

Order K1855-3



Powercraft™ PC26G TIG Torch

Air-cooled 200 amp torch (2 piece) equipped with valve for gas flow control. 7.6m length.

Order PC 26FS-8I-2



Foot Amptrol™

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

Order K870



Lockable Fuel Cap/Flash Arrestor Kit

For use in locations where flash arrestor safety is required. Lockable fuel cap prevents tampering with fuel. Green cap color provides a visual reminder to use diesel when refueling.

Order K2340-1



Medium Welder Trailer

For heavy-duty road, off-road, plant and yard applications and includes wheeled jack.

Order K2637-1 Trailer
K2639-1 Mud guard



Spark Arrester Kit

Easily mounts to standard muffler.

Order K1847-1



Air Dryer Kit

Minimises water content in supply air. Avoids cold weather air hose ice up and water condensation in air tools during humid weather. Highly recommended for use with plasma cutter. Installs inside the Air Vantage® 500 for compact operation.

Order K2354-1 for Cummins®

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 advice or information about their use of our products. We respond to our customers based on the best information in our possession at that time.

Lincoln Electric® is not in a position to warrant or guarantee such advice, and assumes no liability, with respect to such information or advice. We expressly disclaim any warranty of any kind, including any warranty of fitness for any customer's particular purpose, with respect to such information or advice. As a matter of practical consideration, we also cannot assume any responsibility for updating or correcting any such information or advice once it has been given, nor does the provision of information or advice create, expand or alter any warranty with respect to the sale of our products.

Lincoln Electric® is a responsible 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.