Air Vantage® 800

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.

**WHAT IS CHOPPER TECHNOLOGY®?**
- Traditional weld control is more variable around the desired output.
- Chopper Technology delivers extremely fast response for tighter output control.

**WHAT IS VRD?**
- 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).

- VRD® portion of nameplate with green light on.
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-to-reach 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 studs 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).
- 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® 5G 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 arrester 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.
- 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).

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.

Air Vantage 800 | [4]
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. 34-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

<table>
<thead>
<tr>
<th>Compressor Model</th>
<th>Description</th>
<th>Delivery</th>
<th>Maximum System Pressure</th>
<th>Compressor Protection</th>
<th>Capacities</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMAC® (6)</td>
<td>Belt-Driven Rotary Screw Air Compressor</td>
<td>High Idle Mode: 60 SCFM @ 100 PSI (28.3 liters/sec. @ 7.0 kg/cm²)</td>
<td>150 PSI (10.5 kg/cm²)</td>
<td>Safety Relief Valve 200 PSI 14.0 kg/cm²</td>
<td>Oil: 1.3 gals (5.0 liters)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low Idle Mode: 40 SCFM @ 100 PSI (18.9 liters/sec. @ 7.0 kg/cm²)</td>
<td></td>
<td>High Temperature Automatic Shutdown 290°F (143°C)</td>
<td></td>
</tr>
</tbody>
</table>

(6) Warranty is 3 years/1,000 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

<table>
<thead>
<tr>
<th>Engine Model</th>
<th>Description</th>
<th>Horsepower &amp; Displacement</th>
<th>Dry Capacities</th>
<th>Operating Speeds</th>
<th>Fuel Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cummins® B3.3T (8)</td>
<td>4 Cylinder, 4 Cycle, Water-Cooled Turbo-Charged Diesel Engine, 12V Electric Start, Two-Stage Dry Type Air Cleaner, Fuel Filter with Water Separator</td>
<td>69 HP @ 1860 RPM (3.3 liters)</td>
<td>FUEL: 25 gals (95 liters) COOLANT: 16.0 qts (51.1 liters)</td>
<td>600A Load with compressor</td>
<td>3.9 Gal/Hr</td>
</tr>
<tr>
<td></td>
<td></td>
<td>199 cu. in.</td>
<td></td>
<td>600A Load 1860 RPM</td>
<td>2.9 Gal/Hr</td>
</tr>
<tr>
<td></td>
<td></td>
<td>600A Load 1860 RPM</td>
<td></td>
<td>20A Per Duplex GFCI Receptacle Sealed GFCI Unitl 40A Total</td>
<td>11.1 liters/Hr</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1500 RPM</td>
<td>High Idle 1860 RPM</td>
<td>Low Idle 1500 RPM</td>
<td>4.2 liters/Hr</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.7 Gal/Hr</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.7 liters/Hr</td>
</tr>
</tbody>
</table>

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

### MACHINE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Ordering Information</th>
<th>Description</th>
<th>CC/Pipe/TIG/Gouge Rated Output</th>
<th>CV Rated Output</th>
<th>AC Power</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Vantage 800</td>
<td>K2961-5</td>
<td>650 Amp DC Welder with Air Compressor and AC Generator</td>
<td>12,000 Watts AC Power 1-Phase</td>
<td>20,000 Watts AC Power 3-Phase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>DC Constant Current</td>
<td>DC Constant Voltage</td>
<td>DC Constant Voltage</td>
<td>20,000 Watts 60 Hz</td>
<td>36.9 x 28.5 x 77.0 (937 x 724 x 1956)</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At 40°C 650A/44V/100% 700A/42V/100% 800A/36V/100%</td>
<td>At 40°C 650A/44V/100% 700A/42V/100% 800A/36V/100%</td>
<td>14-44V Single Dial Continuous Control Wire Feeder Power</td>
<td>60V/60Hz</td>
<td>3.9 gals (14.8 liters)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>30-700 Amps</td>
<td>30-700 Amps</td>
<td>14-44V Single Dial Continuous Control</td>
<td></td>
<td>To top of exhaust tube: 49.2 (1469)</td>
<td>Metal skid width: 28.9 (794)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300A/32V/70% 40-300A</td>
<td>300A/32V/70% 40-300A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>DC Touch Start TIG</td>
<td>DC Touch Start TIG</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>250A/30V/700% 20-250 Amps</td>
<td>250A/30V/700% 20-250 Amps</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>DC Arc Gouge</td>
<td>DC Arc Gouge</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>800A/36V/700% 90-800 Amps</td>
<td>800A/36V/700% 90-800 Amps</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Single Dial Continuous Control</td>
<td>Single Dial Continuous Control</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>60V DC Max OCV @1860 RPM</td>
<td>60V DC Max OCV @1860 RPM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) 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).

(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.
**RECOMMENDED ACCESSORIES**

**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 14-50P.
  Order T2129-9

- **Full-KVA Power Plug [3-Phase]**
  One plug rated at 240V, 50 amps. NEMA 14-50P.
  Order T2129-10

- **Full-KVA Adapter Kit [1-Phase]**
  Order K8181-1

**STICK OPTIONS**

- **Accessory Kit**
  Includes 16 ft. (0.7 m) 20 electrode cable with lug, 30 ft. (9.1 m) 20 work cable with lugs, headshield, filter plate, cover plate, work clamp and electrode holder. 400 amp capacity.
  Order K704

- **Hand Amptrol™**
  Provides 25 ft. (7.6 m) remote control for TIG welding. 6-pin plug connection. Velcro straps secure torch.
  Order K870

- **Foot Amptrol™**
  Varies current while welding for making critical TIG welds and crater filling. Depressing pedal to increase 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

**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 564 in. (2,0 mm) drive roll kit for cored wire.
  Has 81% reduced wire feed speed capability for 6 o’clock pipe welding with Innershield® wire.
  Order K2614-9

**TIG OPTIONS**

- **Pre-Torch™ PTA-26V TIG Torch**
  Air-cooled 200 amp torch [2 pieces] equipped with valve for gas flow control. 25 ft. (7.6 m) length.
  Order K7873-9

- **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 re closable sack.
  Order KP509

- **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 K5261-1

**Wired Remote Control**

- **Includes a 115V duplex receptacle to power lights and tools. 25 ft. (8.1 m) cable. Customizable MIN/MAX Range.**
  Order K4330-1

- **Includes a 115V duplex receptacle to power lights and tools. 25 ft. (8.1 m) cable. Customizable MIN/MAX Range.**
  Order K4260-1
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

FlexFeed™4 HT Wire Feeder
Heavy duty industrial semiautomatic wire feeder for general and structural fabrication. Order K3883

Magnum 5G Spool Gun
Hand-held semiautomatic wire feeder. Requires 5G Control Module and Input Cable. Order K487-25

5G 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 5G 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


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.

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