Choose the Ranger® 305 D for extended fuel efficiency and compatibility with diesel-powered fleets. The 305 D is equipped with a 10,000-watt single-phase AC generator that powers motor starting, tools and inverter welders for extended range and process capability. Meets all EPA Tier 4 requirements.

- Digital weld meters to monitor actual welding output
- Arc force control for a soft or more forceful digging arc
- Built-in “hot” start for easier starts and restrikes
FEATURES

» Multi-Process Welding
  • Excellent DC multi-process welding for general purpose stick, downhill pipe (stick), TIG, cored-wire and MIG (CO₂ and mixed gas).
  • Only compact diesel welder in North America rated at 29V for 300 amps of stick or CV wire welding.
  • CV wire welding with up to 5/64 in. (2.0 mm) diameter electrodes.

» Digital Weld Meters
  • Digital weld meters for amps and volts makes it easy to precisely pre-set your procedures and monitor actual welding output.

» Superior Arc Performance
  • Lincoln Electric Chopper Technology® – provides easy starts, a smooth arc, low spatter and excellent bead appearance.

» 10,000 Watts Peak Single-Phase AC Generator Power
  • 10,000 watts peak for motor starting.
  • 9,500 watts continuous for high capacity needs such as a back-up generator, powering a Lincoln Electric Invertec® inverter welder. Also use for lights, a grinder or other power tools.
  • AC generator voltage is constant at 120V or 240V at any weld dial setting.

» Skewed Rotor Design
  • Skewed rotor design provides AC power suitable for operating Lincoln Electric inverter power sources.

» Rugged Reliability
  • Welding and AC Generator Outputs rated at 104ºF (40ºC).

» 18.8 HP Kubota® Diesel Engine
  • Water-cooled for low noise.

PERFORMANCE

Welding Performance

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 and cored-wire.

Benefits of Chopper Technology include:
• Easy arc starting
• Low spatter levels
• Smooth arc action
• Excellent bead appearance

• CC-stick mode is optimized for general purpose stick using E7018 low hydrogen electrode.
• Downhill pipe welding mode excellent for cellulosic electrodes, such as Fleetweld® 5P+. Fast travel speeds, especially on fill passes. Arc control adjustment for a softer, buttery arc, or a more forceful, digging arc.
• Arc force control provides a soft or more forceful digging arc in CC-stick or downhill pipe mode and inductance/pinch control in CV wire mode.
• Built-in “hot” start for easier starts and restrikes minimizing the electrode “sticking” to the work.
• DC Touch Start TIG® – lift tungsten to start the arc.
Simple Controls - Keep training time to a minimum with the straightforward control panel of the Ranger 305 D. The flip-down control panel door keeps less frequently used controls out of the way.

Single, full-range output control dial. No confusion with taps and controls!

4 welding modes: CC-Stick, Downhill Pipe, CV-Wire, and DC Touch Start TIG.

Dual digital output meters for presetting weld amps for stick, TIG or downhill pipe modes, or voltage for CV wire mode. Also displays actual outputs while welding. Memory feature holds output readings for 7 seconds after welding stops for viewing by the operator.

Output at welding terminals controlled by electronic contactor. Can be switched to “On”, or to “Remotely Controlled”.

Remote is auto-activated when plugged into a 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™.

Compatible with many Lincoln wire feeders including the LN-25 Ironworker™, LN-15, LF-72, LF-74, LN-7 GMA, LN-742, LN-8 wire feeders and Magnum™ SG Spool Gun.

Wire feed voltmeter switch matches polarity of wire feeder voltage to polarity of electrode.

Top-of-the-line water-cooled Kubota® 18.8 HP D722 diesel engine with electric start. EPA Tier 4 Final.

Fully enclosed case for equipment protection and low noise. Noise at rated load:
  - 104.2 dB sound power (Lwa)
  - 80.6 dBA sound level at 23 ft. (7 m)

Glow plugs for rapid starting down to 5°F (-15°C).

Mechanical fuel pump is activated when glow plug button is pressed.
- Engine closed breather system keeps engine compartment clean! Eliminates oil mist from collecting inside engine compartment, especially on radiator surfaces, which would lower engine cooling efficiency. Also prevents oil drips to a truck bed or the ground from an open breather discharge.
- 12 gallon fuel capacity allows you to run an extended day.
- Electric fuel gauge located on control panel makes it easy to check the fuel level during operation. Helps you eliminate running low on fuel during critical jobs.

- Large top fuel filler neck is easily accessed for refueling.
- Oil drain valve (no tools required) with removable extension tube.
- Convenient truck or trailer mounting with front and rear holes in base.

**KEY CONTROLS**

1. Hour Meter
2. Output Control Dia
3. Digital Weld Output Ammeter
4. Weld Mode Switch
5. Arc Force & Inductance/ Pinch Control
6. Circuit Breakers
7. 120 Volt AC GFCI Receptacles (NEMA 5-20R)
8. Output Stud Covers
9. Ground Stud
10. 120/240 Volt AC Full KVA Receptacle (NEMA 14-50R)
11. Remote Control & Feeder Connectors
12. Wire Feeder Voltmeter Polarity Switch
13. Output Contactor Control Switch
14. Digital Weld Output Voltmeter
15. Idler Control Switch
16. Engine Protection Light
17. Pushbutton Start Switch
18. Glow Plug Button
19. Run/Stop Switch
20. Electric Fuel Gauge
Quality and Reliability

- Printed circuit boards are environmentally-shielded using Lincoln Electric engineered potting and protective frame trays.
- Oil dip stick, filters, spark plugs, etc. are easily accessed with left, right and top engine doors. Left and right doors are removable.
- Adjust exhaust direction with top-mounted 360º rotatable exhaust muffler. Muffler made from aluminized steel for long life.
- Attractive red and black powder paint finish offers increased durability with added protection from rust and corrosion.
- Longer engine life, reduced noise emissions and greater fuel economy with automatic engine idler.
- Conveniently located engine maintenance label under top engine door.
- Engine hour meter for scheduled maintenance.
- Circuit breaker protection on the battery ignition system provides added component protection.
- Reliable start-up with Group 58 battery with 550 cold cranking amps.
- Automatic engine shutdown protection for low oil pressure or high engine temperature. Indicator light on control panel.
- Dependability and long life aided by all-copper windings in rotor and stator with high quality insulation.
- 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 (engine is warranted separately by the manufacturer - see Engine Specifications, footnote 6).

MACHINE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Ordering Information</th>
<th>Description</th>
<th>CC/Pipe Rated Output (1) Current/Voltage/ Duty Cycle</th>
<th>CV-Rated Output Current/Voltage/ Duty Cycle</th>
<th>Generator AC Power (2)</th>
<th>Dimensions H x W x L inches (mm)</th>
<th>Weight lbs. (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranger 305 D (Kubota)</td>
<td>K1727-4</td>
<td>300 Amp DC Multi-Process Arc Welder with Lincoln Electric Chopper Technology</td>
<td>10,000 Watts Peak 9,500 Watts Continuous AC Power</td>
<td>DC Constant Current 305A/29V/100% 20-300A 40-300A DC Pipe Current 300A/29V/100% Touch Start TIG 256A/30V/100% 20-250 A Single Dial Continuous Control 60V DC Max OCV @ 3650 RPM</td>
<td>DC Constant Voltage 300A/29V/100% 14-29 V Single-Dial Continuous Control Wire Feeder Power 42V, 60 Hz, 15 Amps 120V, 60 Hz, 20 Amps</td>
<td>10,000 Watts Peak 9,500 Watts Continuous 60 Hz Single Phase Full KVA Receptacle 40A@ 240V 40A@ 120V ea. Branch Circuit (5) Four 120V GFCI Receptacles 20A per Duplex 40A Total (5)</td>
<td>29.9 x 21.5 x 52.3 in (759 x 546 x 1327 mm) To top of exhaust tube: 35.8 in. (909 mm)</td>
</tr>
</tbody>
</table>

(1) High Altitude: For maximum rating, derate the output 2.5% to 3.5% for every 1,000 ft. (300 m). High Temperature: For maximum rating, derate 2 volts for every 18°F (10°C) above 104°F (40°C). See Operator Manual for additional information.
(2) DC constant voltage capability provides convenience and added safety when welding in electrically hazardous conditions.
(5) When welding, available auxiliary power will be reduced. Output voltage is within +10% at all loads up to rated capacity.
(6) 120V will operate either 60 Hz or 50/60 Hz power tools, lights, etc.
(7) Circuits cannot be wired in parallel to operate the same device.
### ENGINE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Engine Model</th>
<th>Description</th>
<th>Horsepower &amp; Displacement</th>
<th>Ignition</th>
<th>Capacities</th>
<th>Operating Speeds</th>
<th>Fuel Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kubota D722</td>
<td>(Diesel) EPA Tier 4</td>
<td>18.8 HP @ 3600 RPM 43.9 cu in (789 cc)</td>
<td>Electric Start, 12V Group 58 Battery, 550 Cold Cranking Amps, Pushbutton Start Switch, Charging Indicator</td>
<td>FUEL: 12 Gals (45 Ltrs)</td>
<td>FULL LOAD 3,500 RPM [100A]</td>
<td>1.2 Gals/Hr 4.5 Ltr/Hr.</td>
</tr>
<tr>
<td></td>
<td>3 Cylinder, 4 Cycle, Water-Cooled Diesel Engine</td>
<td></td>
<td></td>
<td>OIL: 3.4 Qts (3.2 Ltrs)</td>
<td>HIGH IDLE 3,650 RPM</td>
<td>0.5 Gals/Hr 2.1 Ltr/Hr</td>
</tr>
<tr>
<td></td>
<td>Electric Fuel Pump Auto Air-Bleed System</td>
<td></td>
<td></td>
<td>COOLANT: 3.9 Qts (3.6 Ltrs)</td>
<td>LOW IDLE 2,450 RPM</td>
<td>0.3 Gals/Hr 1.1 Ltr/Hr</td>
</tr>
</tbody>
</table>

*Kubota® warranty is 2 years/2,000 hours for machines shipped within the U.S., Canada, Pacific Ocean region and Western Europe. Warranty is 1 year/1,000 hours for Asia, Africa and Middle East.

### SYSTEM SELECTION

**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 is not assembled.)

**Each Unassembled Package Contains:**
- Ranger 305 D (K1727-4)
- Accessory Kit (K704)
- LN-25 Ironworker™ Wire Feeder (K2614-9)
- Gun and Cable (K126-12)
- 5/64 in. (2.0 mm) NR®-233 25 lb. (11.3 kg) Spool (ED033039)

**Order:** K2352-5
RECOMMENDED ACCESSORIES

GENERAL OPTIONS

Power Plug Kit
Provides four 120V plugs rated at 20 amps each, and one dual voltage, full KVA plug rated at 120/240V, 50 amps. 120V plug may not be compatible with common household receptacles. Order K802N

Full-KVA Power Plug
One dual voltage plug rated at 120/240V, 50 amps. NEMA 14-50P. Order T1253-9

Full-KVA Adapter Kit
Provides convenient connection of Lincoln Electric equipment with NEMA 6-50P plug to Lincoln Electric engine-driven welders having a Full-KVA receptacle. Order K1816-1

Spark Arrestor Kit
Attaches to muffler exhaust tube. Virtually eliminates spark emissions. Order K1988-1

Small Two Wheel 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. (3,050 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 Du-Hitch®, a 2 in. (51 mm) ball/lunette eye combination hitch. Overall width 60 in. (1524 mm). Overall length 110 in. (2794 mm). Order K2639-1 Fender & Light Kit

K2640-1 Cable Rack

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® self-shielded flux-cored wire for hot, fill and cap passes. 6 & 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


STICK OPTIONS

Accessory Kit
For stick welding. Includes 35 ft. (10.7 m) M20 electrode cable, 30 ft. (9.1 m) M20 work cable, headshield, work clamp and electrode holder. 400 amp capacity. Order K704

Accessory Kit
For stick welding. Includes 20 ft. (6.1 m) #6 electrode cable with lug; 15 ft. (4.6 m) #6 work cable with lugs, headshield, filter plate, work clamp, electrode holder and sample pack of mild steel electrode. 150 amp capacity. Order K875

Remote Control Kit
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

WIRE FEEDERS

K126™ PRO Innershield® Gun
For self-shielded wire with 1/16 in. (1.6-2.0 mm) drive roll and guide tube kit, provides collets, collet bodies, ferrule size, trigger and strap. Order K963-3 (one size fits all Pro-Torch™ TIG torches).

Hand Amptrol™
Provides 25 ft. (7.6 m) of remote current control for TIG welding. (6-pin plug connection). Velcro straps secure torch. Order K363-1 (one size fits all Pro-Torch™ TIG torches).

Magnum® Parts Kit for PTA-26V TIG Torch
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 re closable pack. Order KPS09

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 K3526-1

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 5646 in. (7.6 mm) drive roll kit for cored wire. Has 81% reduced wire feed speed capability for 6 0/clock pipe welding with Innershield® wire. Order K2614-9

Drive Roll and Guide Tube Kit
For .062-.072 in. (1.7-1.8 mm) cored or solid steel wire. Order KPN67-068

PTA-26V TIG Torch
Air-cooled 200 amp torch equipped with valve for gas flow control, 25 ft. (7.6 m) length. Order K798-9

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. Includes 25 ft. (7.6 m) control cable. Order K870
WIRE FEEDERS, CONT’D.

Magnum PRO 350 Ready-Pak® 15 ft., .035-.064 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-.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.
Order K487-25

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

INPUT CABLE
For [SG Control Module]
Order K691-1

PLASMA CUTTING
Tomahawk® 1000
Cuts metal using the AC generator power from the engine-driven welder. Requires the 712563-9 Full-KVA Power Plug (1-Phase).
Order K2808-1

PRODUCT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Product Number</th>
<th>Rated Output</th>
<th>Output Range</th>
<th>Engine</th>
<th>HP @ Speed</th>
<th>H x W x D</th>
<th>Net Weight</th>
</tr>
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<tr>
<td>Ranger 305 D</td>
<td>K2352-5</td>
<td>20-250A DC TIG</td>
<td>10,000 Watts Peak</td>
<td>Kubota D722 Diesel EPA Tier 4</td>
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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 customer’s particular purpose is specifically disclaimed.

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