

A large offshore oil rig, the SAE-500, is shown in the ocean under a blue sky with scattered clouds. The rig features a complex steel structure with multiple levels, including a large red lifeboat on the left and a yellow crane on the right. The rig is supported by a network of steel legs extending into the water.

# SAE-500<sup>®</sup> Severe Duty

ENGINE-DRIVEN WELDER / GENERATOR

**LINCOLN<sup>®</sup>**  
**ELECTRIC**

# Superior Choice for Critical Welds



## SAE-500 Severe Duty

is the preferred choice for its great arc performance, design simplicity, reliability and ruggedness! Designed especially for offshore pipeline welding, construction and maintenance.

## The Diesel Workhorse

For demanding jobs that call for high amperage capabilities, the SAE-500 offers 500 amps for DC stick welding and 3,000 watts of AC power. The SAE-500 is powered by a heavy duty Deutz® diesel engine, which offers low maintenance and long life for hassle-free operation. Add CV wire welding with the optional CV adapter.

K3955-1 SAE-500 Severe Duty shown



## Dual Continuous Control

Continuous adjustment of voltage and current. Select either a soft "buttery" arc or snappy "digging" arc for fast, high quality welding.

## High Duty Cycle Welding Output

100% duty cycle at 400 amps and 60% duty cycle at 500 amps for demanding applications.

## Heavy Duty Industrial Diesel Engine

Deutz 4-cylinder, water-cooled industrial turbo-charged diesel engine offers low maintenance and increased power with 64 HP EPA Tier 4 compliance.

## Designed for the Off-Shore Salt Spray Environment (Severe Duty Model)

- >> Stainless steel and hot-dip galvanized case & internal sheet metal parts
- >> Stainless steel brushholder assemblies
- >> All copper coils
- >> Coated radiator, laminations and wire connections
- >> Sealed switches
- >> Engine air intake shutdown device and optional spark arrestor available to meet mineral management services code

### Processes »

Stick, TIG, Flux-Cored (With CV Adapter), Gouging

### Industries Served »

Repair/Maintenance, Offshore, Pipeline, Structural

### Output »

80-575A DC Welding  
3000 Watt AC Generator

### Rated Output Current/ Voltage/ Duty Cycle

500A / 40V / 60%  
400A / 40V / 100%

### HP@Speed (RPM)

64HP @ 1800 RPM

### Weight/Dimensions

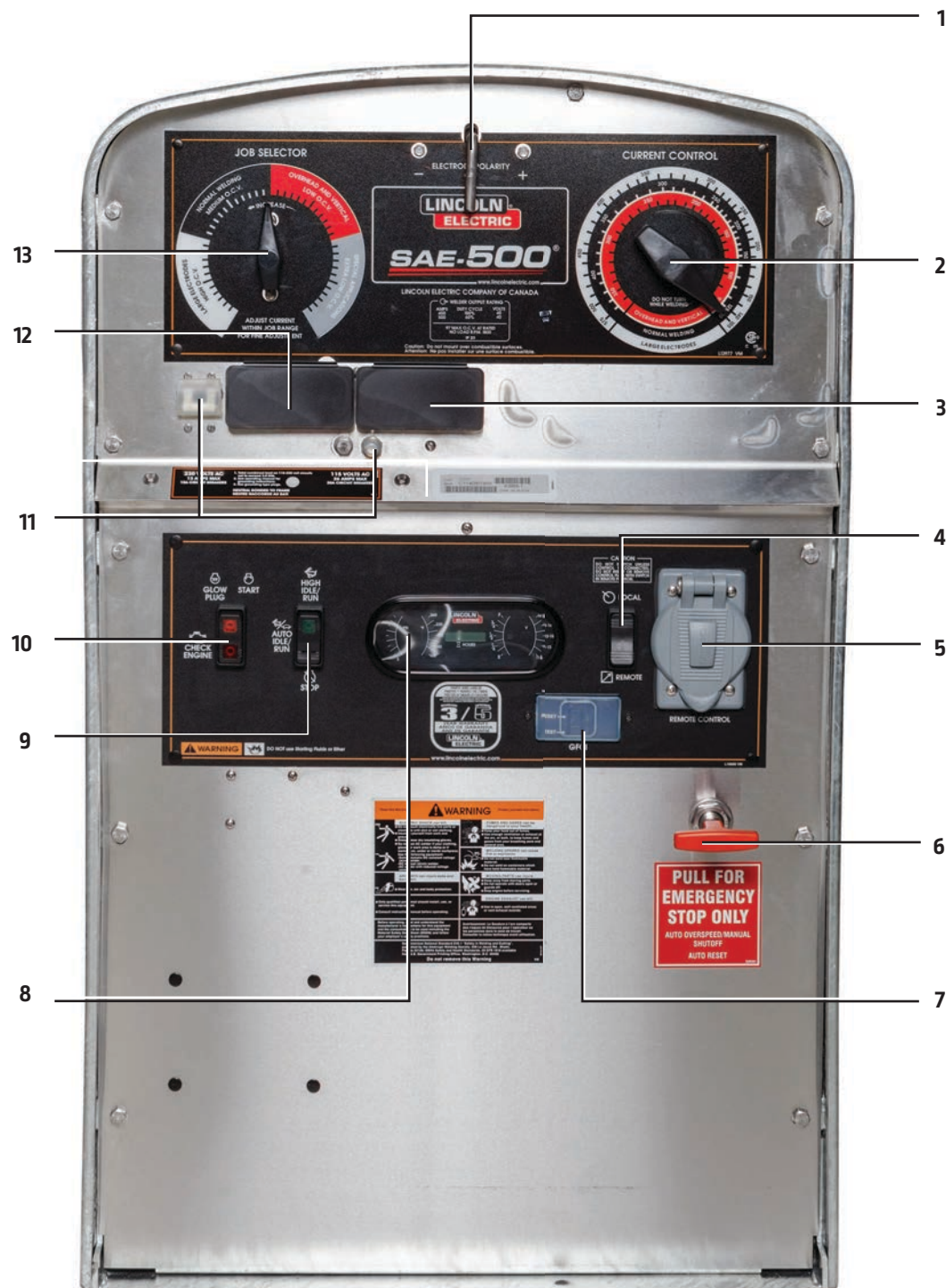
2111 lbs. (957.5 kg)  
  
45.8 x 28 x 83 in.  
(1164 x 711 x 2109 mm)  
  
To Top of Exhaust Tube  
54.3 in. (1379 mm)

### Product Number »

K3955-1 SAE-500 Severe Duty







## Controls »

1. Polarity Switch
2. Current Control
3. 115V Receptacles with Covers
4. Local / Remote Switch
5. Remote Control Receptacle
6. Air intake Emergency Shutdown Handle (Severe Duty only)
7. Sealed GFCI
8. Dashboard Gauge
  - Engine Hours
  - Oil Pressure
  - Temperature
  - Fuel Level
  - Battery Charging Volts
  - Engine Fault Codes
9. Stop / Auto Idle / High idle Switch
10. Start Switch / Engine Protection Light
11. Circuit Breakers
12. 230V Receptacles with Covers
13. Job Selector

MACHINE SPECIFICATIONS

Product Name	Product Number	Rated Output @ 104°F(40°C) Current/Voltage/Duty Cycle	Output @ 104°F (40°C) - Welder and Generator			H x W x D in (mm)	Net Weight lbs (kg)
			Output Range	Open Circuit Voltage	AC Generator Power <sup>(1)</sup>		
SAE-500 Severe Duty	K3955-1	500A DC/40V/60% 400A DC/40V/100%	80-575A DC DC Welding	97V Max OCV @ 1800 RPM	3000 Watts 60 Hz, AC	45.8 x 28 x 83 (1164 x 711 x 2109)	2111 (957.5)

[1]115V will operate either 60 Hz or 50/60 Hz power tools, lights, etc.

ENGINE SPECIFICATIONS

Product Name	Make/Model	Description	Speed (RPM)	HP @ Speed (RPM)	Displacement	Starting System	Dry Capacities
SAE-500 Severe Duty	Deutz TD2.9L4 EPA Tier 4 Final	4 Cylinder 4 Cycle Water-Cooled Turbocharged Diesel Engine with Dry Cartridge Air Filter and Water Separator	Full Load 500A (1800 RPM) High Idle 1800 RPM Low Idle 1180 RPM	64 HP @ 1800 RPM	221 cu. in. (3.6 Ltrs)	Compression Ignited	Fuel: 29 US gal. (109.8 Liters)  Oil: 8.9 US quarts (8.4 Liters)  Coolant: 9.5 US quarts (9.0 Liters)

Engine warranted separately by engine manufacturer.

ADDITIONAL ACCESSORIES	PRODUCT NUMBER	SAE-500 SEVERE DUTY K3955-1
<b>GENERAL</b>		
<b>Large Welder Trailer</b> – Two-wheeled trailer with a standard Duo-Hitch™ (2" Ball and Lunette Eye combination hitch) for heavy-duty road, off-road, plant, and yard use. For highway use, consult applicable federal, state, and local laws regarding possible additional requirements. Optional fender and light package available.	K2637-2	•
<b>Fender &amp; Light Kit</b> – Allows use of trailer at night and as required by local regulations. Includes fenders, lights with guards, mounting brackets, wiring, and hardware.	K2639-1	•
<b>Cable Storage Rack</b> – For storage of approximately 100 ft. (30.5 m.) of 2/0 (70 mm <sup>2</sup> ) welding cable per side.	K2640-1	•
<b>Four-Wheeled Steerable Yard Trailer</b> – Four-wheeled trailer with a standard Duo-Hitch™ (2" Ball and Lunette Eye combination hitch) for plant and yard towing. Includes 13" wheels and an automatically engaging drawbar lock.	K2641-2	•
<b>Power Plug Kit</b> – Provides two 115V plugs rated at 20 amps each, and two 230V plugs rated at 15 amps each.	K802D	•
<b>Spark Arrestor Kit</b> - Mounts to muffler exhaust tube to significantly reduce spark emissions.	K3985-1	•
<b>Service Kit</b> - One easy-to-purchase kit including all the needed engine filters to maintain peak welder performance. Includes air filter, fuel filter, oil filter, and fuel water separator.	K3558-4	•
<b>STICK</b>		
<b>Remote Control</b> – Remote Output Control for stick operation. Contains switch, receptacle, remote control rheostat, and 100 ft (30.5 m) of cable. Easy field installation.	K924-4	(Included)
<b>TIG OPTIONS</b>		
<b>Pro-Torch® PTA-26V TIG Torch</b> – Light and easy to use, these torches give you the power of maximum versatility and maneuverability. A molded, knurled handle gives you a sure grip so you can focus on the weld. "V" model torches provide a convenient gas control valve to turn off and on shielding gas at the torch. Whether you are an occasional TIG welder, fabrication shop or production welder, Pro-Torch TIG torches are right for you.	K1783-9	•
<b>TIG Module</b> – Supplies high frequency for superior starting, contactor control, remote control capability and a gas valve for AC or DC TIG welding (polarity selection dependent on output characteristics of power source). Rated at 300A/60% duty cycle. Requires 115V, single phase input power.	K930-2	•
<b>Control Cable</b> – Control Cable for the TIG Module. Connects 9-pin socket on TIG Module to 115V plug.	K936-4	•
<b>Arc Start Switch</b> – Needed if an Amptrol® is not used when TIG welding. Comes with a 25 ft. (7.6m) cable. Attaches to the TIG torch for convenient finger control.	K814	•
<b>Contactor Kit</b> – Installs in the K930-2 TIG Module for use with welders without a contactor. Makes the TIG torch electrode electrically 'cold' until the Amptrol® is activated.	K938-1	•

• Optional

Continued on next page

ADDITIONAL ACCESSORIES	PRODUCT NUMBER	SAE-500 SEVERE DUTY K3955-1
<b>WIRE FEEDER</b>		
<b>CV Adapter</b> – Provides constant voltage output for semiautomatic wire welding. Includes connector for 14-pin control cable and local/remote switch. Mounts inside SAE-400.	K385-2	•
<b>Remote Control for Wire Feed Module</b> – Provides remote control capability for machines with the K385-2 CV Adapter installed	K2464-1	•
<b>LN-25X</b> – True Voltage Technology (TVT) is now included with the LN-25X portable wire feeder. When used with a CrossLinc compatible power source, control cables are eliminated and voltage can be controlled right at the feeder. TVT compensates for voltage drop when using long welding power cables.	K4267-2	•
<b>Activ8X</b> – Rugged, light-weight, portable across-the-arc wire feeder that fits up to an 8" dia. spool. Includes CrossLinc and TVT capability to remotely set voltage from the feeder without a control cable and to ensure the set voltage regardless of power cable lengths	K3519-1	•
<b>K126™ PRO Innershield Gun</b> – Feature replaceable liners, interchangeable backend, long life Magnum® PRO contact tips, improved heat resistant gun tubes, and better trigger lead protection. For self-shielded .062-5/64 in. (1.6-2.0 mm) wire with 15 ft. (4.5 m) cable. Includes K466-10 Connector Kit.	K126-12	•
<b>Magnum SG Spool Gun</b> – 25.ft (7.6m) handheld semiautomatic wire feeder large easy-grip handle and remote control wire speed. Requires Control Module K488 and Input Cable K691-10.	K487-25	•
<b>Magnum Control Module</b> – 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.	K488	•
<b>Square Wave TIG 200</b> – Portable TIG and stick welding machine that provides smooth and stable AC TIG welding on aluminum and DC TIG welding on steel, stainless steel and chrome-moly.	K5126-1	•
<b>Power MIG 210MP</b> – Multi-process welder with MIG, stick, TIG, and flux-cored welding. The push-and-turn digital controls and color display screen make setup and operation intuitive and easy, while the all-metal wire drive and sturdy sheet-metal construction make it rugged and ready for any job. Runs off auxiliary power to provide an additional welding arc.	K3963-1	•
<b>Multi-Weld® 350</b> – Small and portable welder to provide additional welding arcs. Multiple machines can be powered off the welding power cable of one main power supply. Excellent option to provide control at the welding arc for DC+ stick or wire processes.	K1735-1	•

• Optional

#### 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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