

SAE-400[®]

Processes

Stick, TIG, Flux-Cored⁽¹⁾, Gouging
(1) With CV Adapter.

Product Number

K1278-15 Perkins[®] with High Capacity
AC Power

K1278-14 Perkins[®]

K1278-10 Deutz[®]

See back page for complete specs

Output Range

80-575A DC Welding
AC Power - See Back Page

Rated Output Current/Voltage/Duty Cycle

400A DC/40V/100%
500A DC/40V/60% Perkins[®]
500A DC/40V/35% Deutz[®]

Number of Cylinders

4

HP @ Speed (RPM)

Perkins[®]: 64.4 HP @ 1710 RPM
Deutz[®]: 59.6 HP @ 1800 RPM

Weight/Dimensions (H x W x D)

See Back Page

SAE-400[®] with Perkins[®] Engine and High Capacity AC Power
Product Number K1278-15

The Diesel Workhorse[™]

For demanding jobs that call for high amperage capabilities, the SAE-400[®] offers 400 amps for DC stick welding and AC power. It is powered by either a heavy duty Perkins[®] or Deutz[®] industrial diesel engine. Both engines offer low maintenance and long life. Add CV wire welding with the optional CV Adapter.

FEATURES

- ▶ **Rugged Construction**
 - Heavy gauge steel case withstands rough field handling.
- ▶ **Dual Continuous Output Control**
 - Continuous adjustment of voltage and current.
 - Select either a soft “buttery” arc or snappy “digging” arc for fast, high-quality welding.
- ▶ **Arc Gouging**
 - Arc gouging with up to 3/8 in. (10 mm) carbons.
- ▶ **Multiple Arcs**
 - Large capacity DC weld output makes the SAE-400[®] the #1 choice for multiple arcs with the Multi-Weld[™] 350 system. Available power is 22,500 watts at 60V DC. (See recommended accessories section.)
- ▶ **High Capacity 60 Hz AC Power on K1278-15:**
 - 13,000 watts 3-phase 240V
 - 10,000 watts 1-phase 120V/240V
 - Euro and NEMA receptacles

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

APPLICATIONS

- ▶ Pipelines
- ▶ Construction
- ▶ Maintenance



K1278-15 Shown

FEATURES, CONT'D

- ▶ **Standard 60 Hz AC Power on K1278-14 and K1278-10:**
 - K1278-14 has Euro and NEMA receptacles
 - K1278-10 has NEMA receptacles
 - 3,000 watts 1-phase 120V or 240V on both models



INPUT OUTPUT



PERFORMANCE

- 400 amp rated output DC arc welding power source with outstanding characteristics for pipe, construction and maintenance stick welding. 575 amp maximum output.
- Polarity switch for selecting DC+, DC- welding output (K1278-14 and K1278-15 SAE-400® Perkins®).
- K1278-15 model delivers 13,000 watts of 240V 3-phase AC power for a plasma cutter, pump, or inverter welder. Also has 10,000 watts of 120V/240V 1-phase AC power for common construction tools and lights. Power a Square Wave™ TIG 200 or a Tomahawk® 1000 plasma cutter.
- K1278-14 and K1278-10 deliver 3,000 watts of 115V/230V AC generator power for a grinder, lights or other power tools.

- Add CV wire welding capability with optional CV Adapter. Use with across-the-arc LN-25 Ironworker™ and LN-15 wire feeders.

SAE-400® with High Capacity AC Power
Simultaneous Welding and AC Power

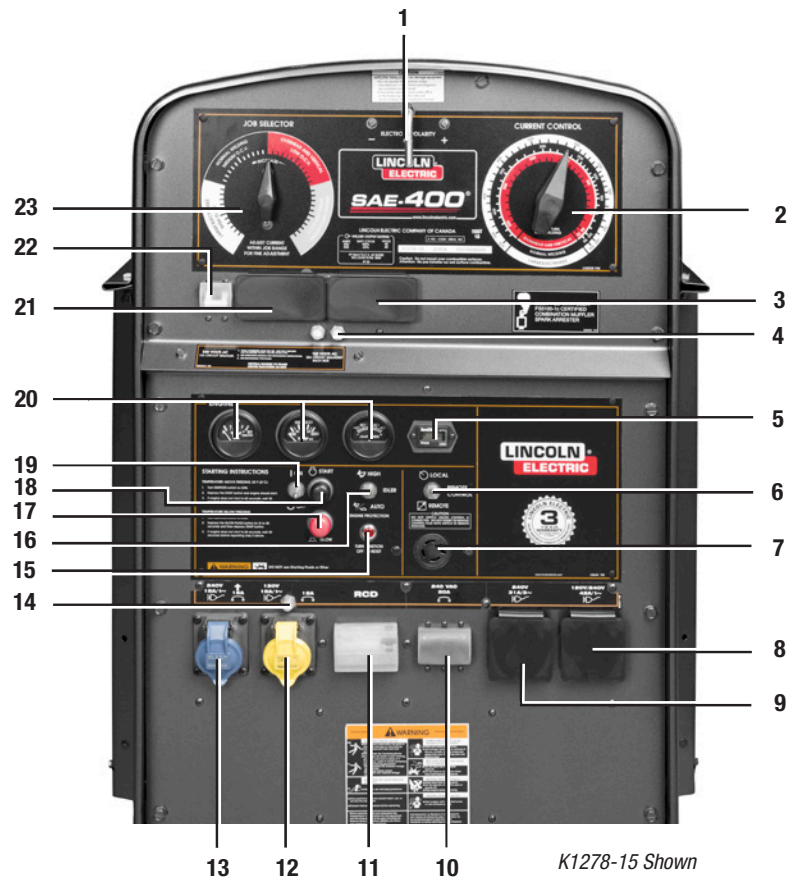
Welding Current, Amps @ NEMA Arc Volts	Using Only 120V Circuit Amps 1 Phase	Using Only 240V Circuit Amps 1 Phase/3 Phase	Total AC Power 10 kVA/13kVA
0	84	42/31	10/13
100	81	40/30	10/12
200	71	35/26	8/11
300	54	27/20	6/8
400	30	15/11	4/5
500	0	0/0	0/0

FEATURES

- Pressure lubrication system with replaceable filter assures lubrication to all critical areas of the engines.
- Engine gauges indicate oil pressure, temperature and battery charging amps.
- All day welding with 29 gallon (109.8 liter) plastic fuel tank with combination fuel cap/fuel gauge. Pre-filter water separator and a filter in the fuel line help keep the fuel clean.
- Perkins® engine uses glow plugs for starting the engine at low ambient temperatures, down to -5° F (-21° C).
- Combination muffler/spark arrestor is standard on the Perkins® models.
- Single-side engine access for routine maintenance.
- Engine hour meter for scheduling maintenance.
- Optional oil drain system includes ball valve, hose and clamp to direct oil beyond the base of the machine.
- Optional K924-4 Remote Control Kit with 100 ft. (30 m) cord.

KEY CONTROLS

1. Polarity Switch (K1278-14 and -15)
2. Current Control
3. 115V/120V AC NEMA Receptacles with Covers
4. 115V/120V AC Circuit Breakers
5. Engine Hour Meter
6. Local/Remote Control Switch
7. Remote Control Receptacle
8. 120/240 VAC Full-KVA 1-Phase Receptacle (K1278-15)
9. 240 VAC Full-KVA 3-Phase Receptacle (K1278-15)
10. Full-KVA 1- and 3-Phase Circuit Breaker (K1278-15)
11. RCD (Residual Current Device) (K1278-15)
12. 115V/120V AC European Receptacle (K1278-14 and -15)
13. 230V/240V AC European Receptacle (K1278-14 and -15)
14. Circuit Breaker for 115V/120V European Receptacle
15. Engine Protection Light
16. Engine Idler
17. Glow Plug Button (Perkins® engine)
18. Pushbutton Start
19. On/Off Switch
20. Gauges for Oil Pressure, Temperature, and Battery Charging Amps
21. 230V/240V AC NEMA Receptacles with Covers
22. 230V/240V AC Circuit Breaker
23. Job Selector



QUALITY AND RELIABILITY

- Perkins® water-cooled and Deutz® 4-cylinder, air-cooled industrial diesel engines offer low maintenance and long life.
- Automatic shutdown protection for low oil pressure or high coolant temperature.
- Printed circuit board for idler and engine protection is potted to provide a robust environmental shield.
- Manufactured under a quality system certified to ISO 9001 requirements and ISO 14001 environmental standards.
- Three-year Lincoln Electric warranty (engines are warranted separately by the manufacturers - see Engine Specifications, footnote 4 and 5).

MACHINE SPECIFICATIONS

Product Name	Ordering Information	Description	CC Rated Output ⁽¹⁾ Current/Voltage/Duty Cycle	Generator AC Power ⁽²⁾	Dimensions HxWxL in (mm)	Weight lbs. (kg)
SAE-400® Note: Export only - Not for sale in the U.S. and Canada	K1278-15 Perkins® with High-Capacity AC Power	400 Amp DC Arc Welder with 13,000 Watts Continuous AC Power 3-Phase 10,000 Watts Continuous AC Power 1-Phase NEMA and European Receptacles Includes Polarity Switch	Lincoln Rating 400A/40V/100% 500A/40V/60% 80-575 Amps Continuous Adjustment of Voltage and Current 97V Max. OCV @ 1800 RPM	13,000 Watts, 60 Hz <u>NEMA Duplex Receptacles⁽³⁾</u> 20A @ 120V Each Receptacle 15A @ 240V Duplex Total <u>Euro Receptacles</u> 15A @ 120V 15A @ 240V <u>Full KVA Receptacles</u> 41.7A @ 240V 1-Phase 31.2A @ 240V 3-Phase RCD (Residual Current Device) Included	45.8 x 28 x 83 (1164 x 711 x 2109) To Top of Exhaust Tube: 50.1 (1273)	2286 (1037)
	K1278-14 Perkins®	400 Amp DC Arc Welder with 3,000 Watts of AC Power NEMA and European Receptacles Includes Polarity Switch		3,000 Watts, 60 Hz 20A @ 115V (NEMA) 15A @ 115V (Euro) Shared GFCI Sealed Module 13A @ 240V (NEMA & Euro) Port to add an RCD (Residual Current Device) for Euro Receptacle	45.8 x 28 x 83 (1164 x 711 x 2109) To Top of Exhaust Tube: 50.1 (1273)	2157 (978)
	K1278-10 Deutz®	400 Amp DC Arc Welder with 3,000 Watts of AC Power NEMA Receptacles	Lincoln Rating 400A/40V/100% 500A/40V/35% 80-575 Amps Continuous Adjustment of Voltage and Current 97V Max. OCV @ 1800 RPM	3,000 Watts, 60 Hz 26A @ 115V (NEMA) 13A @ 230V (Euro)	45.8 x 28 x 83 (1164 x 711 x 2109) To Top of Exhaust Tube: 50.1 (1273)	2319 (1052)

⁽¹⁾ Based on a 10 minute period. High Altitude: For maximum rating, derate the output 5% for every 1,640 ft. (500 m) above 3,280 ft. (1,000 m).

⁽²⁾ 115V or 120V will operate either 60 Hz or 50/60 Hz power tools, lights, etc. ⁽³⁾ Circuits cannot be wired in parallel to operate the same device.

ENGINE SPECIFICATIONS

Engine Model	Description	Horsepower & Displacement	Capacities	Operating Speeds	Fuel Consumption
Perkins® Diesel ⁽⁴⁾ 1104A-44 Non-EPA (Export Only)	4 Cylinder, 4 Cycle Water-Cooled Diesel Engine with Dry Cartridge Air Filter	64.4 HP @ 1710 RPM 269 cu in (4.4 ltrs)	<i>Fuel:</i> 29.0 gals (109.8 ltrs) <i>Oil:</i> 10.1 qts (9.6 ltrs) <i>Radiator Coolant:</i> 3.4 gals (12.8 ltrs)	Full Load: 1,710 (400A) High Idle: 1,800 RPM Low Idle: 1,100 RPM	1.8 gals/hr - 7.0 ltrs/hr 0.8 gals/hr - 3.0 ltrs/hr 0.5 gals/hr - 2.0 ltrs/hr
Deutz® Diesel ⁽⁵⁾ F4L912 Non-EPA (Export only)	4 Cylinder, 4 Cycle Air-Cooled Diesel Engine with Dry Cartridge Air Filter	59.6 HP @ 1,800 RPM 232 cu in (3.8 ltrs)	<i>Fuel:</i> 29.0 gals (109.8 ltrs) <i>Oil:</i> 13.2 qts (12.5 ltrs)	Full Load: 1,710 (400A) High Idle: 1,800 RPM Low Idle: 1,050 RPM	1.8 gals/hr - 6.9 ltrs/hr 0.8 gals/hr - 2.9 ltrs/hr 0.4 gals/hr - 1.5 ltrs/hr

⁽⁴⁾ Perkins® warranty is 2 years/3,000 hours. ⁽⁵⁾ Deutz® warranty is 2 years/3,000 hours.

RECOMMENDED ACCESSORIES

GENERAL OPTIONS



Power Plug Kit
Provides two 115V plugs rated at 20 amps each, and two 230V plugs rated at 15 amps each. 115V plug may not be compatible with common household receptacles.
Order K802D



**Full-KVA Power Plug
(for K1278-15)**
One dual voltage plug rated at 120/240V, 50 amps. NEMA 14-50R.
Order T12153-9



**Full - KVA Adapter Kit
(for K1278-15)**
Provides convenient connection of Lincoln Electric equipment having a 240V AC 1-phase plug (NEMA 6-50P) to the full-KVA receptacle on engine-driven welders.
Order K1816-1

RECOMMENDED ACCESSORIES

GENERAL OPTIONS (CONT'D)



GFCI Receptacle Kit (for K1278-10)

Includes one UL approved 115V ground fault circuit interrupter duplex type receptacle and installation instructions. Replaces the factory installed 115V duplex receptacle. Each receptacle of the GFCI duplex is rated at 20 amps. Maximum total current from the GFCI duplex is limited to 20 amps.
Order K1690-1

Oil Drain Kit

Includes ball valve, hose and clamp to direct used oil beyond the base of the machine.
Order K2144-1 (Perkins®)
Order K949-1 (Deutz®)

Spark Arrestor Kit (for K1278-10)

Mounts to muffler exhaust tube. Virtually eliminates spark emissions.
Order K1847-1

Large Welder Trailer

For heavy-duty road, off-road, plant and yard use. Includes pivoting jack stand, safety chains, and 14 in. (356 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:
K2637-2 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. Also includes a Duo-Hitch® – a 2

in. (51 mm) Ball/Lunette Eye combination hitch. Overall width 55 in. (1397 mm). Overall length 132 in. (3353 mm).
Order K2641-2

Multi-Weld™ 350

For multiple arcs from the DC output of a welding power source. See bulletin E5.302 for Multi-Weld™ 350 and distribution system.
Order K1735-1

STICK OPTIONS

Accessory Kit

For stick welding. 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, work clamp and electrode holder. 400 amp capacity.
Order K704

Remote Control

Remote control rheostat permits machine output changes up to 100 ft. (30.5 m) from the machine. Includes local/remote switch and receptacle for older machine control panels.
Order K924-4

TIG OPTIONS

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 K5126-1

WIRE FEEDER OPTIONS

CV Adapter

Provides constant voltage output for semiautomatic wire welding. Includes connector for 14-pin control cable and local/remote switch. Mounts inside SAE-400®.
Order K385-2



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

Drive Roll and Guide Tube Kit

For .068-.072 in. (1.7-1.8 mm) cored or solid steel wire.
Order KP1697-068

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

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

PLASMA CUTTING

Tomahawk® 1000 (for K1278-15)

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

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)
SAE-400® Perkins®	K1278-15	400A DC/40V/100% 500A DC/40V/60%	Welding 80-575 Amps 3-Phase AC Power: 13,000 Watts 1-Phase AC Power: 10,000 Watts	Perkins® 1104A-44 Diesel Non-EPA (Export only)	4	64.4 @ 1710	45.8 x 28 x 83 (1164 x 711 x 2109) To Top of Exhaust Tube: 50.1 (1273)	2286 (1037)
	K1278-14		Welding 80-575 Amps 1-Phase AC Power: 3,000 Watts					2157 (978)
SAE-400® Deutz®	K1278-10	400A DC/40V/100% 500A DC/40V/35%		Deutz® F4L912 Diesel Non-EPA (Export only)		59.6 @ 1800		2319 (1052)

For best welding results with Lincoln Electric equipment, always use Lincoln Electric consumables. Visit www.lincolnelectric.com for more details.

CUSTOMER ASSISTANCE POLICY

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