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# SAE-400<sup>®</sup>

## Processes

Stick, TIG, Flux-Cored<sup>(1)</sup>, Gouging  
(1) With CV Adapter.

## Product Number

K1278-14 Perkins<sup>®</sup>  
K1278-10 Deutz<sup>®</sup>

See back page for complete specs

## Output Range

80-575A DC Welding  
3000 Watts AC Generator

## Rated Output Current/Voltage/Duty Cycle

400A DC/40V/100%  
**NEW!** 500A DC/40V/60% Perkins<sup>®</sup>  
500A DC/40V/35% Deutz<sup>®</sup>

## Number of Cylinders

4

## HP @ Speed (RPM)

Perkins<sup>®</sup>: 64.4 HP @ 1710 RPM  
Deutz<sup>®</sup>: 59.6 HP @ 1800 RPM

## Weight/Dimensions (H x W x D)

See Back Page

## The Diesel Workhorse™

For demanding jobs that call for high amperage capabilities, the SAE-400<sup>®</sup> offers 400 amps for DC stick welding and 3,000 watts of AC power. The SAE-400<sup>®</sup> is powered by either a heavy duty Perkins<sup>®</sup> or Deutz<sup>®</sup> industrial diesel engine. Both engines offer low maintenance and long life for hassle-free operation. 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<sup>®</sup> 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.)

### ▶ K1278-14 has Euro and NEMA receptacles for 60 Hz AC generator power (K1278-10 has NEMA receptacles only).

- 3,000 watts for both models.

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



K1278-14 Shown

## APPLICATIONS

- ▶ Pipelines
- ▶ Construction
- ▶ Maintenance



## INPUT



## OUTPUT



 Perkins<sup>®</sup>



## PERFORMANCE

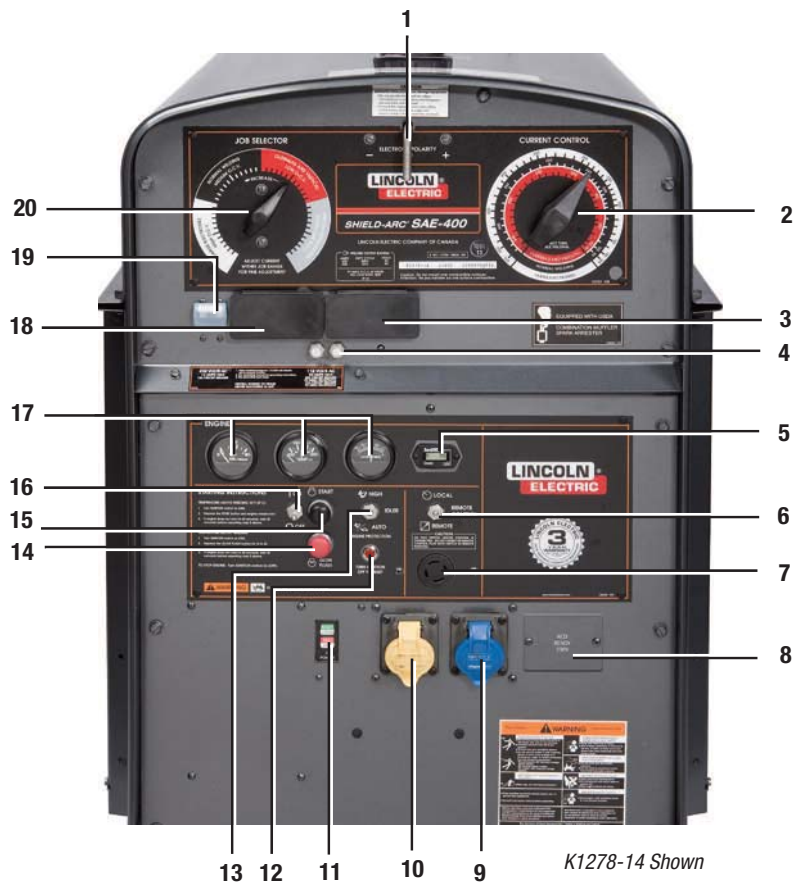
- 400 amp rated output DC arc welding power source with outstanding characteristics for pipe, construction and maintenance stick welding. 575 amp maximum output.
- Polarity switch for selecting DC+, DC- welding output (K1278-14 SAE-400® Perkins®).
- Scratch start DC TIG welding. (See TIG module in recommended options section for high frequency starting.)
- Delivers 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.

## 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 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® model.
- 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 Only)
2. Current Control
3. 115V AC NEMA Receptacles with Covers
4. 115V AC Circuit Breakers
5. Engine Hour Meter
6. Local/Remote Control Switch
7. Remote Control Receptacle
8. RCD-Ready Port Cover (K1278-14 Only)
9. 230V AC European Receptacle (K1278-14 Only)
10. 115V AC European Receptacle (K1278-14 Only)
11. Sealed GFCI Module (K1278-14 Only)
12. Engine Protection Light
13. Engine Idler
14. Glow Plug Button (Perkins® engine)
15. Pushbutton Start
16. On/Off Switch
17. Gauges for Oil Pressure, Temperature, and Battery Charging Amps
18. 230V AC NEMA Receptacles with Covers
19. 230V AC Circuit Breaker
20. 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 environment 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).

## MACHINE SPECIFICATIONS

Product Name	Ordering Information	Description	CC Rated Output <sup>(1)</sup> Current/Voltage/Duty Cycle	Generator AC Power <sup>(2)</sup>	HxWxL in (mm)	Dimensions Weight lbs. (kg)
SAE-400®	K1278-14 Perkins® Non-EPA (Export only)	400 Amp DC Arc Welder with 3,000 Watts of AC Power NEMA and European Receptacles Includes Polarity Switch	Lincoln Rating 400A/40V/100% <b>NEW!</b> 500A/40V/60% Perkins® 500A/40V/35% Deutz®  80-575 Amps	3,000 Watts, 60 Hz AC  20 Amps @ 115V (NEMA) 15 Amps @ 115V (Euro) Shared GFCI Sealed Module	45.8 x 28 x 83 (1164 x 711 x 2109)  To Top of Exhaust Tube: 50.1 (1273)	2157 (978)
	K1278-10 Deutz® Non-EPA (Export only)	400 Amp DC Arc Welder with 3,000 Watts of AC Power NEMA Receptacles	Continuous Adjustment of Voltage and Current  97V Max. OCV @ 1800 RPM	13 Amps @ 230V (NEMA & Euro) Port to Add an RCD (Residual Current Device) for Euro Receptacle		
				3,000 Watts, 60 Hz AC  26 Amps @ 115V (NEMA) 13 Amps @ 230V (NEMA)		

<sup>(1)</sup> Based on 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).

<sup>(2)</sup> 115V will operate either 60 Hz or 50/60 Hz power tools, lights, etc.

## ENGINE SPECIFICATIONS

Engine Model	Description	Horsepower & Displacement	Capacities	Operating Speeds	Fuel Consumption
Perkins® Diesel <sup>(4)</sup> 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)	Fuel: 29.0 gals (109.8 ltrs)  Oil: 10.1 qts (9.6 ltrs)  Radiator Coolant: 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 - 6.9 ltrs/hr  0.7 gals/hr - 2.6 ltrs/hr  0.3 gals/hr - 1.0 ltrs/hr
Deutz® Diesel <sup>(5)</sup> 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)	Fuel: 29.0 gals (109.8 ltrs)  Oil: 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

<sup>(4)</sup> Perkins® warranty is 2 years/3,000 hours.

<sup>(5)</sup> Deutz® warranty is 2 years/3,000 hours.

## RECOMMENDED ACCESSORIES TO EXPAND MACHINE CAPABILITIES

### 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**



#### 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®)**



#### 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:

**K2637-1** 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 vertical 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**



## RECOMMENDED ACCESSORIES TO EXPAND MACHINE CAPABILITIES

### 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

**Pro-Torch™ PTA-26V TIG Torch**  
Air-cooled 200 amp torch equipped with valve for gas flow control. 25 ft. (7.6 m) length.  
**Order K1783-9**



**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 reclosable sack.  
**Order KP509**



**TIG Module**  
Portable, high frequency unit with gas valve for TIG welding. Rated at 300 amps/60% duty cycle.  
**Order K930-2**



**Control Cable**  
Connects TIG Module to the SAE-400®.  
**Order K936-4**



**Control Cable Extension**  
Allows the TIG Module to be operated at distances up to 200 ft. from the power source. Available in 45 ft. (13.7 m) sections.  
**Order K937-45**



**Arc Start™ Switch**  
Comes with a 25 ft. (7.6 m) cable. Attaches to the TIG torch for convenient finger control.  
**Order K814**



**Contactor Kit**  
For use with TIG Module.  
**Order K938-1**



### 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**

## PRODUCT SPECIFICATIONS

Product Name	Product Number	Rated Output Current/Voltage/Duty Cycle	Output Range	Engine Model	Number of Cylinders	HP & Speed (rpm)	H x W x D inches (mm)	Net Weight lbs. (kg)
SAE-400® Perkins®	K1278-14	400A DC/40V/100% 500A DC/40V/60%	Welding: 80-575A DC	Perkins® 1104A-44 Diesel Non-EPA (Export only)	4	64.4 @ 1710	45.8 x 28 x 83 (1164 x 711 x 2109)	2157 (978)
SAE-400® Deutz®	K1278-10	400A DC/40V/100% 500A DC/40V/35%	AC Generator: 3000 watts	Deutz® F4L912 Diesel Non-EPA (Export only)		59.6 @ 1800	To Top of Exhaust Tube: 50.1 (1273)	2319 (1052)

For best welding results with Lincoln Electric equipment, always use Lincoln Electric consumables. Visit [www.lincolnelectric.com](http://www.lincolnelectric.com) for more details.

### CUSTOMER ASSISTANCE POLICY

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**LINCOLN®**  
**ELECTRIC**  
THE WELDING EXPERTS®