

# SA-400I International

## Processes

Stick, TIG, MIG<sup>(1)</sup>, Flux-Cored<sup>(1)</sup>, Gouging

(1) With K3964-1 Wire Feed Module.

## Product Numbers

K4088-1 SA-400I International (Perkins®) - Canada

## Output Range

40-425A DC Welding  
3000 Watts AC Generator

## Rated Output - Current/Voltage/ Duty Cycle

400A DC/25V/35%  
300A DC/32V/60%  
250A DC/30V/100%

## Number of Cylinders

4

## HP @ Speed (RPM)

Perkins® 32.7 HP @ 1800 RPM

See back for complete specs

## Excellent for Pipelines, Construction and Maintenance

The SA-400I International features proven, simple and rugged construction, along with Lincoln Electric's well-known pure DC generator design for excellent performance on pipe, construction and maintenance welding.

## FEATURES

- ▶ **Pure DC Generator Welding Output**
  - Produces the welding arc preferred by pipeline operators and contractors for precise control of the arc in demanding code applications.
- ▶ **All Copper Windings**
  - Enhances arc stability for a really smooth, high performance arc.
- ▶ **Five Current Ranges with Overlap**
  - For stick welding and other processes where slope control is desired. Fine-tuning within each range.
- ▶ **400 Amps Output @ 35% Duty Cycle**
  - Welds up to 1/4 in. (6.4 mm) Fleetweld® 5P+ cellulosic and Excalibur® low hydrogen electrode.
- ▶ **Reliable Industrial Diesel Engines**
  - 4-cylinder, water-cooled, 1800 RPM Perkins® engine runs smooth and quiet.
  - Engine gauges allow you to monitor performance at a glance.

## APPLICATIONS

- ▶ Pipeline
- ▶ Maintenance and Repair
- ▶ Construction



K4088-1  
model shown

## INPUT



## OUTPUT



 Perkins®



Two Year Extended Warranty  
Available in the U.S.A. and Canada.

## PERFORMANCE

### Arc Performance

- Arc gouging with up to 3/16 in. (4.7 mm) carbons.
- 2/0 (70 mm<sup>2</sup>) cable recommended for 200-250 ft. (61-76 m) combined lengths of electrode and work cables.

### Generator Performance

- 3,000 total watts of AC power from a 120V or 240V duplex receptacle for power tools and lights.
- Circuit breaker protection. 120V AC 20 amp output will operate up to a 9 in. (229 mm) grinder.
- Weather-protected receptacle covers.
- GFCI (Ground Fault Circuit Interrupter) is sealed from moisture for more reliable operation.

## FEATURES

- The Perkins industrial 4-cylinder engine is a smooth-running, water cooled diesel engine:
  - Perkins® 404D-22
  - 98.1 dB sound power (Lwa) at rated load.
  - 73 dBA sound level at 23 ft. (7 m)
- Fuel gauge on control panel to easily monitor fuel level.
- Additional engine gauges indicate oil pressure and engine temperature.
- Engine hour meter to track scheduled maintenance.
- All day welding with 16 gallon (60.6 liters) plastic fuel tank with fuel gauge located on the front control panel.
- Oil drain valve and tube are standard.
- Compact size for installation on truck beds.
- Local/Remote switch and receptacle are factory installed for easy connection of the remote control.

### Stick Welding

- Optional K924-4 Remote Control Kit for stick welding. Includes remote box and 100 ft. (30 m) cable. Includes local/remote switch and receptacle for older machine control panels. Make fine current adjustments up to 100 ft. (30 m) from the machine.

### Wire Welding

- Optional Wire Feed Module for CV-wire welding. Increases productivity and reduces welding costs. Rated at 300 amps, 35 volts at 60% duty cycle, 325 amps, 34 volts at 35% duty cycle. Recommended wire feeders include LN-25 Ironworker™ or Activ8™ across-the-arc models. Module has 14-pin connector for Lincoln Electric wire feeders that use a control cable with 115V AC input: LN-7 GMA and LN-8. Built-in contactor for “cold-tip” electrode. (When CV wire welding with optional Wire Feed Module, idler may need to be set to “high” position for low current processes.)
- Optional K2464-1 Remote Control Kit for stick and wire welding is available for machines that have the Wire Feed Module installed. Make output adjustments up to 100 ft. (30 m) from the machine.

## KEY CONTROLS

- |   |  |
|---|--|
| 1. Current range selector   | 9. 240V circuit breaker @ 13 Amps                                  |
| 2. Oil pressure hour meter/gauge                                  | 10. Sealed GFCI  |
| 3. Fuel gauge/ engine protection light and battery charging light | 11. Local/remote switch  |
| 4. Engine temperature gauge                                       | 12. Local/remote receptacle  |
| 5. Idler control switch   | 13. 120V circuit breaker @ 20 Amps                                 |
| 6. Run/stop switch  | 14. 120V receptacle  |
| 7. Start button   | 15. 240V receptacle  |
| 8. Glow plug button   | 16. Fine current and O.C.V (Rheostat) adjustment for stick welding |



## QUALITY AND RELIABILITY

- Engine has glow plugs for cold weather starting.
- Automatic shutdown protection for low oil pressure or high water temperature.
- Electronic engine idler extends engine life and reduces fuel consumption.
- Engine protection/control printed circuit board is trayed and potted to provide a robust environmental shield.
- Single-side engine access for easy routine maintenance.
- Attractive and durable pearlescent gray finish paint.
- Three-year Lincoln Electric warranty (engines are warranted separately by the manufacturers).
- Manufactured under a quality system certified to ISO 9001 requirements and ISO 14001 environmental standards.



Cross-country pipe welding.

### MACHINE SPECIFICATIONS

Product Name	Ordering Information	Description	Rated DC Output Current/Voltage/Duty Cycle	DC Current Fine Adjustment Range	Auxiliary Power <sup>(2)</sup>	Dimensions H x W x L inches (mm)	Weight lbs/(kg)
SA-400I (Perkins®)	K4088-1 Export	400 Amp DC Arc Welder  All Copper Windings  Pure DC Power Generator	NEMA Ratings 400A/25V/35% 300A/32V/60% 250A/30V/100%  90V DC MAX OCV	40 - 425 Amps  240 - Max 170 - 260 120 - 190 80 - 130 Min - 90	3,000 Watts 60 Hz, AC  20 Amps @ 120V with sealed GFCI Module  13 Amps @ 240V	37.1 x 24.0 x 65.0 (943 x 610 x 1651) <i>To top of exhaust tube: 45.5 (1156)</i>	1450 (658)

<sup>(2)</sup> 120V will operate either 60 Hz, or 50/60 Hz power tools, lights, etc.

### ENGINE SPECIFICATIONS

Engine Model	Description	Horsepower & Displacement	Ignition	Dry Capacities	Operating Speeds	Fuel Consumption
Perkins® 404D-22 Diesel <sup>(3)</sup> EPA Tier 4i	4 Cylinder 4 Cycle Water-Cooled Diesel Engine Cast Iron Cylinders Block/Crank Case Mechanical Governor	32.7 HP @ 1800 RPM  135.4 cu in (2.2 liters)	Compression Ignited	FUEL: 16 Gals (60.6 liters)	FULL LOAD 300A (1725 RPM)	1.21 Gals/Hr 4.60 liters/Hr
				OIL: 11.2 Qts (10.6 liters)	HIGH IDLE 1,800 RPM	0.45 Gals/Hr 1.70 liters/Hr
				COOLANT: 9.5 Qts (9.0 liters)	LOW IDLE 1,400 RPM	0.31 Gals/Hr 1.17 liters/Hr

<sup>(3)</sup> Perkins® warranty is 2 years/2,000 hours, all components, 3 years major components. See warranty for details.



**115 Volt**



**GENERAL OPTIONS**

**Power Plug Kit**

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

**Spark Arrestor Kit**

Attaches to muffler exhaust tube. Virtually eliminates spark emissions.  
**Order K903-1**

**Medium 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. (3.0 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:**  
**K2636-1** Trailer  
**K2639-1** Fender & Light Kit  
**K2640-1** Cable Rack

**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 m) from the machine. Includes local/remote switch and receptacle for older machine control panels.  
**Order K924-4**

**TIG OPTIONS**

**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**

Magnum® Parts Kit 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 pack.  
**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 power source. For 9-pin to 115V.  
**Order K936-4**



**Control Cable Extension**

Allows the TIG Module to be operated at distances up to 200 ft. (61.9 m) from the power source. 45 ft. (13.7 m) length.  
**Order K937-45**



**Arc Start™ Switch**

Needed if an Amptrol™ is not used when TIG welding. 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 the TIG Module.  
**Order K938-1**

**WIRE FEEDER OPTIONS**

**Wire Feed Module**

Provides constant voltage (CV) output with excellent arc stability for Innershield® welding and MIG welding. Easy installation. Recommended wire feeder is the LN-25 Ironworker™.  
**Order K3964-1**

**Remote Control Kit (Stick & Wire)**

For machines that have the wire feed module. Contains a rheostat for stick output, a potentiometer for wire output and 100 ft. (30 m) of control cable.  
**Order K2464-1**

**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 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**



**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**



**Drive Roll and Guide Tube Kit**

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

**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**



**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 the wire speed and gas flow. For use with a spool gun.  
**Order K488**

**Input Cable**

(For SG Control Module) For Lincoln engine power sources with 14-pin MS-type connection, separate 115V NEMA receptacles and output stud connections.  
**Order K691-10**



## 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)
SA-400I International (Perkins®)	Export only K4088-1	250A/30V/100% 300A/32V/60% 400A/25V/35%	Welding: 40-425A DC AC Power: 3,000 watts	Perkins® 404D-22 Diesel EPA Tier 4i	4	32.7 @ 1800	Machine only 37.1 x 24.0 x 65.0 (943 x 610 x 1651) <i>To top of exhaust tube: 45.5 (1156)</i>	1450 (658)

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

**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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