

LINCOLN ELECTRIC®

INSONORIZED ENGINE DRIVEN WELDERS FOR MANUAL WELDING

E 400S / E 500S

Construction on sites where power supply is inadequate or unavailable, requires the use of engine driven welding machines. Lincoln has an established worldwide reputation for the reliability of its engine driven welders on construction sites and for pipelines. Lincoln is now introducing a new range of diesel engine driven welders which are highly noise abated, meet legal requirements with respect to noise in urban areas and improve working conditions for welding operators.

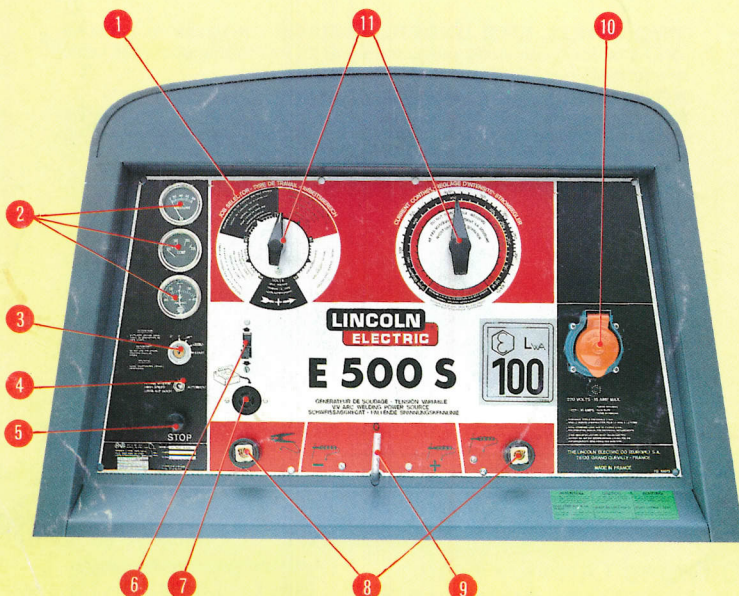
The new range maintains Lincoln design, proven under tough operating conditions in all climates :

- The generator is insulated for tropical conditions as standard with dual continuous control and polarity switch
- A highly rigid chassis ensures excellent alignment of the engine and generator
- Perkins diesel engines and additionally provides :
- Casework ensuring noise abatement of a very high order
- Controls and indicating instruments mounted on the front panel for easy access
- 1/4-turn safety welding terminals
- Internal storage for accessories and tools.

Comply with EEC legislation in effect from March 26, 1986 and with requirements to come into force on March 1991.



FRONT PANEL :



- 1 **Front Panel** is recessed for protection with indications in three languages and functional symbols.
- 2 **Indicating Instruments** for oil pressure, temperature and battery charge.
- 3 **Key Operated Starter** with provision for preheating.
- 4 **Selection of Engine Operating Mode** for continuous full speed or automatic idling. In this mode, the engine automatically operates at idling speed shortly after welding stops.
- 5 **Engine Stop Control**
- 6 **Selector for Local or Remote Control** of welding output even during welding.
- 7 **Remote Control Outlet**
- 8 **Welding Terminals** : 1/4-turn safety welding terminals to European standard for quick connection of welding cables without the need to open side panels.
- 9 **Polarity Switch** connected to the excitation circuit allows easy changeover without reconnecting cables.
- 10 **Auxiliary Power** : 220 V AC auxiliary power protected by fuse and 30 mA differential circuit breaker in conformity with French legislation. Supplies even while welding portable tools such as grinders and lighting appliances. Can be easily changed to 115 V by reconnection at the differential circuit breaker.
- 11 **Dual Continuous Control** : independent and continuous control of the open circuit voltage and welding current. The welder can precisely select the heat input and arc characteristics most suited to the work and best use all types of electrodes, cellulosic, low-hydrogen, etc.

TECHNICAL FEATURES

GENERATOR

- Built to NEMA specification (National Electrical Manufacturers Association).
- A rigid frame ensures permanent alignment of the engine and the generator, even during transportation in rough terrain.
- Magnetic circuits laminated throughout, for minimum losses. Windings impregnated with varnish for tropical conditions and effective protection against moisture and corrosion.
- Auxiliary alternator and rectifier ensure stable excitation of the welding generator and supply the auxiliary power source of 220 V AC.

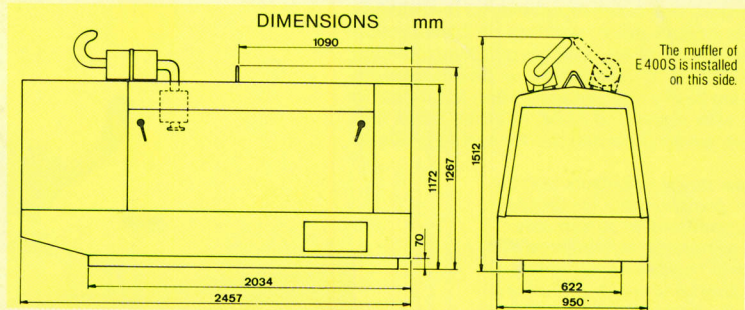
ENGINE

The E 400S and E 500S are equipped with Perkins diesel engines for reliable and economic operation. Low operating speed and reserve power minimize wear and allow intensive use for many years. An additional advantage is the worldwide after sales service available from the Perkins organization. The engine features are as follows :

- Pressure lubrication with replaceable filter and sump which allows operation on slopes of 17° for the E 400S and 30° for the E 500S.
- Pressure water cooling system with radiator and centrifugal pump.
- Dry-type air filter.
- Exhaust gases pass through two mufflers in series, an internal primary muffler and an external secondary unit.
- Speed control : the engine rotational speed remains practically constant irrespective of load.
- Starter : 12 Volt electric starter.
- Automatic idler : the engine operates at idling speed approximately 15 seconds after welding stops.
- Hour meter : registers the number of operating hours to ensure service operations in time (optional on the E 400S).

CASEWORK

- The casework is designed to ensure effective and long-term noise abatement through :
 - Large internal volumes,
 - Very efficient sound absorbent materials including high density rockwool, secured by perforated sheet,
 - Sound absorbent panels for side air entry,
 - A noise trap at the front end for downwards air flow.
- The side doors are removable and give access to a storage space for tools and cables.



SPECIFICATIONS

TYPE	E 400S K - 10 120			E 500S K - 10 140				E 400S	E 500S
Current	Amps			Amps			Diesel Engine	Perkins direct injection	Perkins direct injection
Voltage	V			V					
Duty Cycle NEMA %	100	32+	36	100	60	35	Capacity	2500	3860
Current Range	60A 22V - 400A 36V			80A 23V - 500A 40V			Bore x Stroke	91.4 X 127	98.4 x 127
Auxiliary Power Source	220 V ~ - 3 KVA			220 V ~ - 3KVA			Power	38.2 HP at 1725 rpm	63 HP at 1725 rpm
Storage Volume	dm ³			dm ³			Speed	rpm	
Net weight in working order kg	1110			1170			Idling	1350	1100
Noise Level	dB			dB			Full load	1790	1790
Sound Power *	93			94			Maximum	1800	1800
Sound Pressure at 1 m *	78			79,5			Capacity	L	
Sound Pressure at 7 m *	67			67			Oil Sump	6	8
							Cooling circuit	10,5	12,5
							Fuel tank	67	67

+ - The E 400S and E 500S are rated at the same duty cycle up to 40 Volts.

● - The European Community legislation requires 101 dBA of sound power as of March 26, 1986 [EEC Directive CE 84-535], and forecasts 100 dBA on and after March 26, 1991.

* - Measurements were carried out by the Laboratoire National d'Essais, France, and the values at 1 meter and 7 meters are given for information.

OPTIONAL EQUIPMENT

ENGINE PROTECTION : -P (available only factory installed). Applies only to E 500S. Automatic engine stop in case of excess temperature or insufficient oil pressure.

EMERGENCY SHUTDOWN FOR REFINERIES :

K-10074-4 for E 400S — K-10074-5 for E 500S
K-10074-4-INST or K-10074-5-INST if factory installed. Includes spark arrester and emergency air shut-off valve.

HOUR METER : K-10043 or K-10043-INST if factory installed available only for E 400S, standard on E 500S. Records operating time to ensure engine service at the required intervals.

ROAD TOWING UNDERCARRIAGE : K-10123-INST (available only factory fitted). Approved by the French Service des Mines, equipped with torsion bar suspension, adjustable tow bar with brakes and jockey wheel, parking brake, mudguard, tail lights and trafficators. Net weight in working order with this undercarriage: E 400S: 1400 Kg - E 500S: 1460 Kg.

AUXILIARY POWER SOURCE 24 V AC : K-10061 or K-10061-INST if factory mounted. 250 VA, 24 V safety source protected with fuse and supplied with standard outlet.

REMOTE CONTROL : K-10006-15M, -30M or -45M.
Remote control box with cable for voltage adjustment even while welding. Specify length.

ACCESSORY SET : K-10046-1

Includes : two 5 m long cables equipped with 1/4-turn connector at one end and lug at the other end, electrode-holder, ground clamp and hand-shield.

TWO WHEEL SITE UNDERCARRIAGE : K-10122 or K-10122-INST if factory installed. **Maximum speed : 28 km/hr.** Equipped with rubber suspension and adjustable towbar with stand.

FOUR WHEEL SITE UNDERCARRIAGE : K-10109
Maximum speed : 28 km/hr. Supplied with two axles with torsion bar suspension, the front axle is mounted on a turntable and allows steering. Mounting to welder is quick and easy. Net weight : 230 kg.



The above indications are not contractual and are subject to change without notice.

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