

Shield-Arc 400AS-50



Heavy duty diesel engine driven welder

450 amp DC output / 5 kVA AC power

For Heavy Duty DC mobile Arc Welding



Lincoln's 400AS-50 is a diesel engine driven welder, offering reliable pure DC arc welding performance, with outstanding arc characteristics for all stick welding applications.

The 400AS-50 is both rugged 3 cyl, diesel engine driven 450 amp DC arc welder and 5kVA AC power generator. This powerful generator can be used to provide electricity for lights or power tools.

The 400AS-50 is built in a heavy gauge steel case and its classic A-frame design gives a rigid chassis and in-built strength and rugged construction maintains alignment and protects internal parts for long trouble free working life required to withstand the harsh conditions encountered on cross country pipelines. Shield-Arc power sources have an unmatched reputation among pipeliners and other field welders on demanding jobs.

Specialised Lincoln design features make the 400AS-50 the logical choice wherever welding requires exacting tolerances and premium performance.

ADVANTAGE LINCOLN

- 450 amp DC engine driven welder.
- 5kVA 240 V or 2.5kVA 115V 50Hz aux power.
- Proven generators with pure DC welding output.
- Designed for pipe welding and applications where arc performance is critical.
- Precise control of both current and open circuit voltage lets the operator select arc characteristics needed for each job.
- Dual continuous control allows stepless variation of current from 45 to 450 amps.
- Heavy-duty time-tested welders of the industry.
- Lincoln "plus rated" - exceeds NEMA.
- Auxiliary power and welding available simultaneously.
- All day welding with a 64 litre fuel tank.
- Engine watcher - protects engine from running at excessively high temperatures and low oil level.
- Liquid cooled Perkin's diesel engine.

Features

Welding generator

For optimum reliability the 400AS-50 welding generator exceeds the rating requirements of AS 1966.2 and N.E.M.A. Special design features include laminated frame and pole pieces, tightly-wound well insulated windings, separate excitation, and advanced cooling systems.

To ensure maximum reliability in high and low extremes of ambient temperature and in high humidity, welder windings are double-dipped and baked, while all AC windings are triple-dipped and baked. Field windings are fuse protected against burn out.

Additionally, the DC armature is dynamically balanced to ensure smooth operation.

Dual Control System

This time-saving Lincoln feature permits independent control of welding current and voltage, allowing stepless variation of generator output to obtain the right arc characteristics and precise arc heat to suit the job in hand. Open circuit voltage and amperage can be varied continuously and independently of each other. Controls are positive and cannot creep during use, avoiding arc variation during welding. Dual Continuous Control has many unique advantages in all applications, especially out-of-position field welding, and is essential for optimum performance in vertical down stovepipe welding of pipelines. Up to 5.6mm electrodes may be used without arc popouts.

Remote Field Control

is available as a separate, optional unit for remote welding current control by the operator.

Base Frame

A channel-section frame provides a rigid single base for both engine and generator, eliminates any risk of misalignment when unit is moved or lifted by crane. Optional under-carriages bolt to chassis frame.

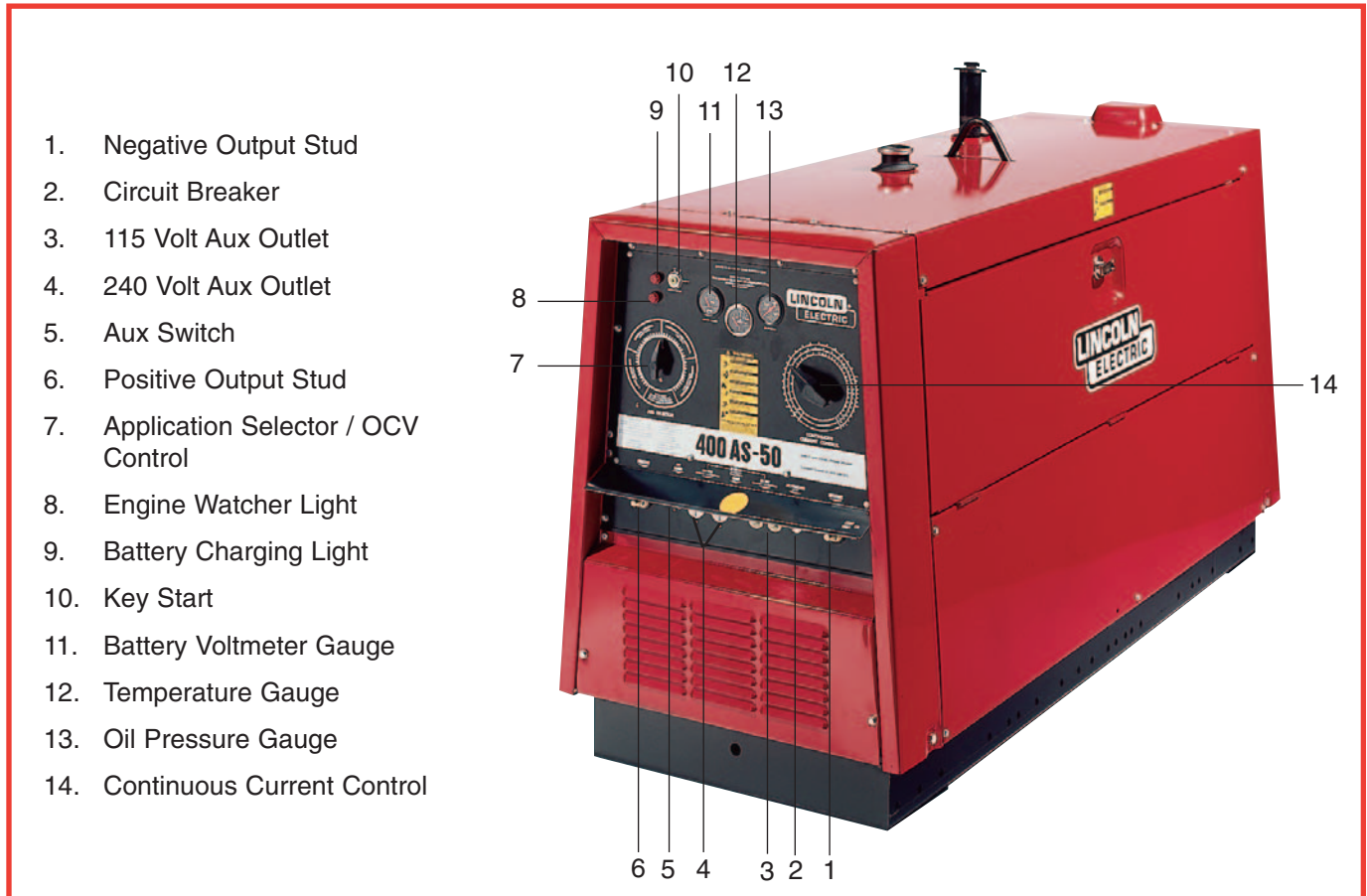
Auxiliary Power

An AC alternator is standard and shares a common shaft with the DC generator. Stable welding current and auxiliary power supply are assured, even when used simultaneously, because they are isolated against inductive interference.

Protection against weather and excess currents is standard. Switched auxiliary outlets provide power for drills, angle grinders, etc. while welding. Unique excitation circuits give a 50Hz stabilised 240V AC supply with minimum variation despite varying auxiliary and welding loads. Specific AC power output is 20A total current from 240 and 115V outlets. Auxiliary power rating is continuous.

Shield-Arc 400AS-50

A CLOSER LOOK



Engine

Powered by the universally acclaimed Perkins diesel, operating well within its rating, (technical details are on page 4) the Lincoln 400AS-50 provides sustained high-output welding performance with minimum maintenance. And it's very economical to run.

The engine is dynamically balanced and vibration free.

1500 rpm low operating speed provides longer life.

Fuel tank

64-litre capacity permits at least one day's constant running. Large inlet assists rapid field refuelling.

Governor

Constant-speed type. Maintains steady engine speed for correct welding output — essential for producing top quality welds in pipeline and alloy steel fabrication, as well as many other critical applications.

Cooling

The pressure cooling system has ample capacity to ensure efficient running in hot areas of Australia, the Middle East, and Asia. Antifreeze is permissible in sub-zero locations.

Battery and Starting

Starting the 400AS-50 is easy. With 12V automotive-type starting, a heavy duty 12V starter motor, alternator and battery ensure reliable key starts and allow easy on-site servicing.

Warranty

Three year worldwide warranty. The engine has the engine manufacturer's warranty.

Filtration Systems

Fuel

Large sediment bowl cartridge filter protects the engine and injection system.

Oil

Full-flow pressure system with replaceable filter.

Air

Heavy duty air cleaner, dry type.

Instruments

Charging circuit volt meter, oil pressure gauge, water temperature gauge, hour meter, engine watcher - protects the engine from running at excessively high temperatures and low oil levels by a cut-out.

Welder output (Amps)	Max. permissible auxiliary power load (Amps)
300 or less	20
300 - 350	15
350 - 400	10
400 - 450	5

TECHNICAL SPECIFICATIONS

Generator

Part Number	Output Range	Rated to AS1966.2 and NEMA	Lincoln 'Plus' rating Duty Cycle	Aux Power* 50Hz AC	Weight (dry) kg	Dimensions H x W x D mm
KA1352-2	45-450 Amp	360A,35V@60%	400A, 36V@80%	5kVA-240V or 2.5kVA-115V	800	1004 x 725 x 1772

Engine

* Any combination, max total current draw of 20 amps

Model	Cylinders	Capacity	Cooling	Power (rated to BS5514.1997)	Max operating inclination	Cooling Capacity (8.3 litres)	Governor
Perkins D3/1524 diesel	3	2.5 litre (152 cu in)	Liquid cooled	28kW@1500rpm	30°	Liquid centrifugal pump	Mechanical on injector pump

Sound levels @ 7m

	No Load	Loaded
Standard	78dBA	82dBA
Sound reduced	73dBA	77dBA

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RECOMMENDED OPTIONS

Undercarriages (Two-wheeled)*

Basic Trailer with springs	Order KA1065
with springs & brakes	Order KA1066
Jockey wheel	Order KA1198
Mud guard kit	Order KA1069

Undercarriages (Four Wheeled)

With towbar, springs and steerable front wheels. Ring type coupling on towbar.
Order KA1037

* Undercarriages supplied with ring type coupling.

Tropic Proofing - provides extra protection for service in high humidity environments.
Order T

Sound Damping Kit - Factory fitted, or customer fitted kit is available for sound reduction.
Kit Order KA1260
Factory Fitted Order S

CV Adaptor - provides constant voltage (CV) output with improved arc stability for Innershield welding. Also excellent for MIG welding. Easy installation. Recommended wire feeders are the LN-25 and LN-23P.
Order KA1208

LN-25 Wire Feeder - Portable CC/CV unit for flux-cored and MIG welding.

Includes Gas Solenoid & Internal Contactor. Requires CV adapter.

Order K449

Accessory Kit - Contains 1 electrode holder, 1 ground clamp, 1 helmet, 1 wire brush, 1 chipping hammer.

Order KIT400

Lead Kit - Contains one 10m electrode lead and one 9m ground lead, complete with lugs.

Order KIT1600

Remote Field Control - For current control up to 15m away from welder.

Order KA1021

High-Freq™ - provides high frequency plus a gas valve for DC TIG welding.

Order K799-1

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 advice or information about their use of our products. We respond to our customers based on the best information in our possession at that time. Lincoln Electric is not in a position to warrant or guarantee such advice and assumes no responsibility, with respect to such information or advice. We expressly disclaim any warranty of any kind, including any warranty of fitness for any customer's particular purpose, with respect to such information or advice. As a matter of practical consideration, we also cannot assume any responsibility for updating or correcting any such information or advice once it has been given, nor does the provision of information or advice create, expand or alter any warranty with respect to the sale of our products.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change - This information is accurate to the best of our knowledge at the time of printing.

The Lincoln Electric Company (Australia) Pty. Ltd.

LINCOLN[®]
ELECTRIC
THE WELDING EXPERTS

35 Bryant Street, Padstow, NSW 2211

Ph: 1300 728 720 (AUST ONLY)

Ph: +61 2 9772 7222

Asia Pacific Head Office

11 Pandan Crescent, Singapore

Ph: +65 6773 6689

Your local Lincoln distributor is: