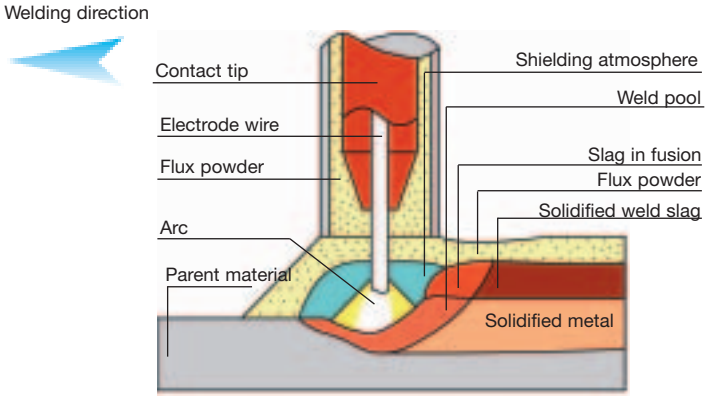
Subarc welders

MODEL	OUTPUT			PROCESS						
	Mode	Polarity	Current Range (Amps)	Stick	TIG scratch	MIG	Flux-Cored	Submerged Arc	Arc gouging	Warranty (years)
Power Wave® AC/DC 1000® SD	CC/CV	AC	200-1000					●		3
Idealarc® DC-655	CC/CV	DC	50-815	●	◒	●	●	●	●	3
Idealarc® DC-1000	CC/CV	DC	150-1300			◒	●	●	●	3
Idealarc® DC-1500	CC/CV	DC	200-1500				◒	●	◒	3
Idealarc® AC-1200	CC	AC	200-1500					●		3

KEY: ● Excellent ◒ Good ○ Optional

Submerged arc Process



The mechanics of the Submerged Arc Welding process (SAW): Both the electrode and the base metal are melted beneath a layer of flux. This layer protects the weld metal from contamination and concentrates the heat into the joint. The molten flux rises through the pool, deoxidising and cleaning the molten metal. It then forms a protective slag covering and maintaining the newly deposited weld.

The range of applications can be anything from 2 mm increasing with no upper limit. Subarc is one of the most versatile of welding processes. All steel grades, from non to high alloyed, including Ni-based, can be welded with a combination of various application techniques.

Ranging from a single electrode-single power source to a combination of four power sources feeding two wires each, Lincoln is proud to offer an extensive range of application solutions to the market.

As a global supplier, including equipment and consumables, Lincoln's knowledge in the SAW process will support you in reaching the toughest productivity and quality targets.

Power Wave® AC/DC 1000® SD

NEXTWELD

Increased productivity, quality and flexibility

The Power Wave® AC/DC 1000® SD takes submerged arc welding to the next level. In addition to conventional benefits of SAW, such as high deposition rates and good penetration, heightened control and faster responses to the arc are unique to the design of the Power Wave® AC/DC 1000® SD.

With the Power Wave® AC/DC 1000® SD, you get the best of both worlds : the speed, deposition rate, and penetration that DC SAW offers, and the resistance to arc blow that AC SAW offers. In single arc processes, the Power Wave® AC/DC 1000® SD provides flexibility with Waveform Control Technology. In multiple arc processes, that same flexibility is achieved through control of phase shifting between arcs.

The machine is designed to be easily paralleled for welding applications that require higher amperage. Each Power Wave® AC/DC 1000® SD provides 1000A of AC or DC output at 100% duty cycle and can be paralleled to any desired capacity.

- **Eliminate downtime** with easy polarity switching— no hardware reconfiguration required.
- **Stable and independent arc controls** for multiple arc applications.
- **Improved efficiency and reliability** with cooler operation through patented Coaxial Transformer Technology®.
- **95% power factor correction** enables connection of more machines on the same plant infrastructure for lower installation costs compared to other machines.
- **Remote process monitoring and control** through ArcLink®, Ethernet, and DeviceNet™ communication.
- **380-575V VAC 50/60HZ Voltage input** - Offers the ability to be connected anywhere.
- **Severe Duty** - can be stored outdoors - IP23 rated.
- **Software Based control** Can be upgraded as new features become available True Energy Measures calculates and displays instantaneous energy in the weld for critical input calculations.
- **Meet IEC974-1 and CE** standards for safety and reliability.

Processes

Submerged Arc

Output

CC CV AC DC

Input

3 PHASE 50/60 Hz

LINCOLN ELECTRIC 3 Year warranty

Recommended wire feeders

MAXsa™ 10 controller, MAXsa™ 22 feed head

Order

K2803-1 Power Wave® AC/DC 1000® SD

THE LINCOLN ELECTRIC GREEN INITIATIVE
Inverter Technology
reduces energy demand
www.lincolnelectric.com/green

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Fuse Size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
Power Wave® AC/DC 1000® SD	K2803-1	400/3/50-60	1000A/44V/100%	80A	200-1000A	1110 x 488 x 838	250

Idealarc® DC-655

Energy efficiency multi-process welder

A multi-process power source for state-of-the art welding operations, featuring extreme energy efficiency for serious cost-savings.

The Idealarc® DC-655 CE combines ultra reliability with a premium welding arc. Charging onto the scene with 650 amps at 100% duty cycle, this DC arc welding power source can handle multiple welding processes for both CV or CC operation.

The unit has the power to complete even the most demanding welding jobs.

- **CC Arc Force Control Knob** with built-in "Hot Start".
- **"Idle Shut Down mode"** automatically shuts machine off when not in use to minimise power consumption.
- **Fan-As-Needed**™—solid state thermally controlled cooling fan operates only when required. Minimises power consumption, operating noise and dust intake.
- **Separate output studs** let you choose low or high inductance.
- **Panel switches** are behind front latched panel, for remote or machine panel output control, and output "on" or remote "on" selection, and CC, CV Subarc or CV MIG mode selection.
- **Low profile case** allows stacking machines up to three high to conserve floor space.
- **Electronic and thermal protection** from current overload and excessive temperatures.
- **Meet IEC974-1 and CE** standards for safety and reliability.

Processes

Stick, MIG, Flux-Cored, Submerged Arc, Gouging

Output

Input

Recommended wire feeders

LF-37, LF-38, LN-25
NA-3, NA-5, NA-5R

Order

K1610-1 Idealarc® DC-655

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Fuse Size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
DC-655	K1610-1	230/400/3/50/60	650A/44V/100% 815A/44V/60%)	122/70A	50-815A Max. OCV: 68V (CC)	99 x 564 x 965	327

Idealarc® DC-1000

Multi-process welder

If your application requires pure welding power combined with multi-process power, then the Idealarc® DC-1000, with 1300 amps of smooth DC output, is your best investment.
Designed for Semi-automatic and automatic welding, the precise control of the Idealarc® DC-1000 provides superior MIG, flux-cored, submerged-arc welding, and excellent air carbon arc gouging.

Processes
MIG, Flux-Cored, Submerged Arc, Gouging

Output

Input

Recommended wire feeders
NA-3, NA-5, NA-5R, LT-7

Order

K1387-9	Idealarc® DC-1000 with meters

- **500 amp output connections** provide enhanced arc characteristics for low amperage submerged arc and MIG welding procedures.
- **Single range control** for precise output control and easy operation.
- **Terminal strip and output studs** for remote connections and cable.
- **Low profile case** allows installation of the DC-1000 under a work-bench and for stacking up to 2 machines to conserve floor space.
- **Removable side panels** for easy access to internal parts.
- **Line voltage compensation** maintains weld consistency, even with line voltage changes of ±10%.
- **Electronic and thermostatic protection** from current overload and excessive temperatures.
- **Internal components**, including windings, rectifiers and circuit boards, are coated to protect against the effects of moisture and corrosion.
- **Recessed front panel** protects operating controls.
- **Meet IEC974-1 and CE** standards for safety and reliability.

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Fuse Size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
DC-1000	K1387-9	230/380/440/3/50-60	1250A/44V/50% 1140A/45V/60% 1000A/44V/100%	193/112/97 A	16-46V 150-1300A Max. OCV: 60V	781 x 572 x 991	372

Idealarc® DC-1500

Multi-process welder DC arc welding power source

The Idealarc® DC-1500 is a multi-process DC arc welding power source for automatic welding applications. It produces outstanding arc characteristics on both constant voltage and constant current processes for great welding versatility in a single power source. A single range full output control potentiometer provides outstanding welding performance.

- **Full range output voltage control** for easy operation and precise output control.
- **Mode switch** used to select the desired output characteristics for the process being used.
- **Line voltage compensation** for maintaining weld consistency, even with line voltage changes of ±10%.
- **Fan cooled** with electronic and thermostatic protection from current overload and excessive temperatures.
- **Function lights** built into the printed circuit boards speed diagnostics.
- **Windings and rectifiers** protected against moisture and corrosive environments.
- **Removable side panels** for easy access to internal parts.
- **Recessed front panel** protects operating controls.
- **Terminal strip and output studs** for remote connections and cable.
- **Meet IEC974-1 and CE** standards for safety and reliability.

Processes
Flux-Cored, Submerged Arc, Gouging

Output

Input

Recommended wire feeders
NA-3, NA-5, LT-7

Order

K1383-4	Idealarc® DC-1500 380/440/3/50/60
K1383-5	Idealarc® DC-1500 415/3/50/60

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Fuse Size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
DC-1500	K1383-4	380/440/3/50-60	1500A/60V/100%	814A	20-60V 200-1500A	1453 x 566 x 965	644
	K1383-5	415/3/50-60		216A/187A			

Idealarc® AC-1200

Automatic submerged arc welding power source

The Idealarc® AC-1200 is the industry's leading AC power source for submerged arc welding. It is a power source that you can count on day-in and day-out to provide proven performance. The Idealarc® AC-1200 produces outstanding arc characteristics and is specifically designed for operation with Lincoln's NA-4 automatic wire feeder.

- **Scott® connection taps** standard for two AC welding heads operated in tandem.
- **Rheostat** adjusts the output settings while welding or at idle.
- **Three output studs** with overlapping ranges.
- **±10% input line voltage compensation** for maintaining weld consistency.
- **Thermostatic protection** from current overload and excessive temperatures.
- **Terminal strip** for remote control and wire connections and output studs for welding cables.
- **Removable side panels** for easy access to internal parts.
- **Windings and rectifiers** protected against moisture and corrosive environments.
- **Meet IEC974-1 and CE** standards for safety and reliability.

Processes
Submerged Arc

Output

Input

Recommended wire feeders
NA-4

Order

K1382-5	Idealarc® AC-1200 380/1/50/60
K1382-6	Idealarc® AC-1200 415/1/50/60

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Fuse Size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
AC-1200	K1382-5	380/1/50-60	1200A/44V/100%	182A	20-60V 200-1500A	1453 x 560 x 970	712
	K1382-6	415/1/50-60		190A			

POWER SOURCES OPTIONS

AIR FILTER KIT
Mounts on the front of the machine and uses cleanable, all metal air filters. Not compatible with dual process switch.

Item n° : **K1486-1**

for DC-655

DIGITAL METER KIT
Accurately displays welding amps and volts.

Item n° : **K1482-1**

for DC-655

DUAL PROCESS SWITCH
Mounts on front of machine and provides polarity change or electrical isolation. Great for arc gouging applications and where two separate feeders require different output polarity or inductance settings. Not compatible with air filter kit.

Item n° : **K1528-1**

for DC-655

42 VOLT TRANSFORMER KIT
Provides a way to use the LN-10 and DH-10 wire feeder on a DC-1000 that has 115V AC available on the terminal strip.

Item n° : **K1520-1**

for DC-1000