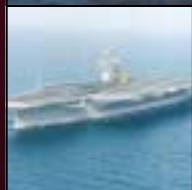
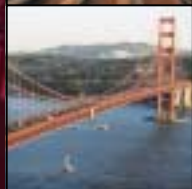


2004

Product Catalog

"Welding The World Together"



LINCOLN®
ELECTRIC

THE WELDING EXPERTS

A Worldwide Tradition of Excellence and Innovation Since 1895

Lincoln Electric's commitment to providing the most innovative, cost-effective, quality welding and cutting solutions is one that has guided our company for more than 100 years. This, coupled with our technological leadership and worldwide manufacturing and distribution resources, enables us to provide competent and reliable solutions for each of our customers. Because of our broad range of products and services, Lincoln Electric is the One Source for all of your welding and cutting needs. We provide the most advanced equipment and consumables, the most responsive training and support, and above all, the most innovative applications to refine your entire welding process. And, when it comes to service, Lincoln Electric stands out in the industry with an unprecedented network of more than 3,000 distributors, technical representatives and research engineers, ready to provide uniquely tailored solutions to your toughest welding problems. No matter what your industry, our welding expertise will translate into solutions that work specifically for you.

Proven Expertise

Lincoln offers:

- a worldwide presence with manufacturing plants, distribution centers, and sales offices strategically located around the globe.
- industrial expertise from our work with all levels of industry ranging from high-tech automation, to heavy equipment, to light metal repair.
- application-specific support provided by our extensive sales and distributor organization, recognized as the welding industry's largest, most thoroughly trained customer support network.

Innovative Technology

Lincoln leads the industry with product offerings, including:

- equipment that reflects the latest industry developments including stick welders, TIG welders, CV MIG welders, CC/CV multi-process welders, plasma cutting, engine driven welders, wire feeders, robotic/automation systems, and environmental systems.
- a full line of stick, TIG, MIG, flux-cored and submerged arc consumables for carbon and low alloy steel, stainless steel, hardfacing, cast iron and non-ferrous applications.
- gas apparatus such as gas regulators, flow meters and gas torches supplied through our Harris Calorific line.

Total Solutions

Lincoln Electric is your One Source for all welding and cutting needs, because of our:

- integrated systems offering a total solutions approach to your welding needs.

- Guaranteed Cost Reduction programs offering unique management approaches to guaranteed process and material savings.
- training and consulting ranging from initial system configurations, to classroom training for new techniques and materials to ongoing site visits.

Lincoln Quality

Quality is an established tradition at Lincoln Electric that is verified on a continuing basis by organizations such as UL, CSA, AWS, ASME, NEMA, Lloyd's, Det Norske Veritas, Military, ISO, Nuclear and others.

Lincoln Electric is committed to welding your world together, improving your processes and lowering your costs.



The Lincoln Electric Company World headquarters is located in Cleveland, Ohio, U.S.A.

RACING'S #1

Benefits

Racing drives our technologies. When you try our new welders, you will discover what the race teams have learned . . . Lincoln's new TIGs start better and the MIGs weld better. That is why every CART team, over half the Winston Cup teams, every full-time IRL team and nearly every NHRA team has switched to Lincoln welders. Don't settle for second best. Try a Lincoln.

Education

Lincoln Electric is committed to sharing our welding technologies with the racing industry placing a heavy emphasis on safety. That's why



NASCAR



NHRA



CART



IRL



USAC



IHRA



ARCA Trucks



Monster Trucks

CHOICE IN WELDING

we offer motorsports welding programs at our corporate headquarters. Register early because we will sell out.

Support

Lincoln Electric offers technical support to any race team. We also provide no charge track-side welding services at over 100 race tracks. In addition, we sponsor trackside welding icons such as Paul Le Sage/ Team Torch and Kelly Campbell/ KoolKraft.



NHRA
Team Torch



NHRA
KoolKraft

Sponsorships

Lincoln Electric is a contingency sponsor for NHRA, USAC, NASCAR Busch Grand National Series, NASCAR Busch North Series, NASCAR Winston West Series, NASCAR Weekly Racing Series and Contingency Connection. Lincoln is the official Welder of ARCA, IRL, USAC and the Indianapolis Motor Speedway. Lincoln is also officially licensed by NASCAR. We are committed!



Infiniti Pro Series



USING THIS CATALOG

Catalog Section

Identifies catalog section for easy-to-find products.

Product Picture

Detailed photo of Lincoln products.

Input & Output Icons

See below for descriptions.

Opening Paragraph

This is a general description of the product. It may include features and applications of the product.

Processes

Recommended arc welding processes for the product.

Advantage Lincoln

This section highlights the key features and benefits of the product.



Product Name

Official Lincoln product name.

Recommended Options

These sections lists the most popular options requested for each product.

Ordering

To order, select the product number that best fits your welding needs.

Technical Specifications

Common specifications, ratings, dimensions and weight for the product.

Output Icons



For constant current stick and TIG processes



Alternating current welding output



Peak auxiliary power output



For constant voltage MIG, flux-cored and subarc processes



Direct current welding output



Continuous auxiliary power output



For multiprocess constant current or constant voltage applications



Alternating or direct current welding output



Wire feeder

Input Icons



Single phase input power



115 volt AC Wire feeder input power



50 Hertz input power



Three phase input power



42 volt AC Wire feeder input power



60 Hertz input power



Single or three phase input power



40 volt DC Wire feeder input power



50/60 Hertz input power



Engine Driven – Gas, Diesel or LPG

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POWER SOURCE SELECTION GUIDE

Power Source	OUTPUT		PROCESS								INPUT					
	Mode	Polarity	Range: A = amps V = volts	Stick	TIG Scratch	TIG Touch-Start™	TIG Hi-Freq®	TIG Pulse	MIG	Pulsed	Flux-Cored	Submerged Arc	Arc Coupling	Phase	Hertz	Page

Stick Welders

AC-225C	CC	AC	40-225 A	■										1	60	11	E2.40
AC-225	CC	AC	40-225 A	■										1	50,60	12	E2.30
AC/DC 225/125	CC	AC	40-225 A	■										1	50,60	13	E2.60
		DC	30-125 A	■	▲												
Idealarc 250	CC	AC	35-300 A	■			●							1	50,60	14	E2.70
		DC	40-250 A	■	▲		●					▲					
V100-S	CC	DC	8-100 A	■	▲									1	50,60	15	E2.140
V160-S	CC	DC	5-160 A	■		■								1	50,60	16	E2.145
V275-S	CC	DC	5-275 A	■	▲	■						▲	1/3	50,60	17	E2.161	
R3R-400	CC	DC	60-500 A	■	▲		●					▲	3	60	18	E2.100	
R3R-500	CC	DC	75-625 A	■	▲		●					▲	3	60	19	E2.100	

TIG Welders

Square Wave TIG 175 PRO	CC	AC	8-175 A	■			■	●						1	50,60	20	E3.35
		DC															
Precision TIG 275	CC	AC	2-340 A	■			■	●						1	50,60	22	E3.42
		DC															
Precision TIG 375	CC	AC	2-420 A	■			■	■						1	50,60	23	E3.51
		DC															
V160-T	CC	DC	5-160 A	▲		■	■	■						1	50,60	24	E3.105
V205-T AC/DC	CC	AC/DC	6-200 A	▲		■	■	■						1	50,60	25	E3.110

MIG/Flux-Cored

SP-135T	CV	DC	25-135 A					■		■				1	60	62	E7.21
SP-135 Plus	CV	DC	25-135 A					■		■				1	60	63	E7.22
SP-175T	CV	DC	30-175 A					■		■				1	60	64	E7.34
SP-175 Plus	CV	DC	25-175 A					■		■				1	60	66	E7.35
Power MIG 215	CV	DC	30-250 A					■		■				1	50,60	67	E7.51
Power MIG 255	CV	DC	30-300 A					■		■				1	60	69	E7.53
Power MIG 300	CV	DC	5-350 A	■		■		■	■	■		▲		1	50,60	70	E7.56
CV-250	CV	DC	30-300 A					■		■				3	60	26	E4.10
			7-32 V														
CV-300	CV	DC	50-400 A					■		■				3	60	27	E4.20
			7-37 V														
CV-400	CV	DC	60-500 A					■		■		■		3	60	28	E4.30
			12-42 V														
CV-655	CV	DC	70-815 A					■		■	▲	■		3	50,60	29	E4.40
			13-44 V														
STT II	STT	DC	PK. 0-450 Bkgrd. 0-125						STT					3	50,60	30	E4.52
					■												

KEY: Excellent ■ Good/Fair ▲ Optional ●

POWER SOURCE SELECTION GUIDE

Power Source	OUTPUT				PROCESS						INPUT					
	Mode	Polarity	Range: A = amps V = volts	Slick	TIG Scratch	TIG Touch-Start™	TIG Hi-Freq®	TIG Pulse	MIG	Pulsed	Flux-Cored	Submerged Arc	Arc Coagling	Phase	Hertz	Page

Multi-Process Welders

V350-PRO	CC CV	DC	5-425 A 15-37 V	■	▲	■	●		■	●	■	▲	1/3	50,60	32	E5.91
DC-400	CC CV	DC	60-500 A 12-42 V	■	▲		●		■	■	■	■	3	60	33	E5.20
DC-600	CC CV	DC	70-850 A 13-44 V	■	▲		●		■	■	■	■	3	50,60	34	E5.40
DC-655	CC CV	DC	50-815 A 13-44 V	■	▲		●		■	■	■	■	3	50,60	35	E5.46
DC-1000	CC CV	DC	150-1300 A 16-46 V						▲	■	■	■	3	50,60	36	E5.50
DC-1500	CC CV	DC	200-1500 A 20-60 V							■	■	▲	3	50,60	37	E5.60
AC-1200	CC	AC	200-1500 A								■		1	50,60	38	E5.70
Power Wave 355	CC CV	DC	5-425 A 15-34 V	▲	▲				■	■	■	▲	1/3	50,60	39	E5.145
Power Wave 455	CC CV	DC	5-570 A 10-43 V	▲	▲				■	■	■	■	3	50,60	40	E5.160
Power Wave 455/STT	CC CV	DC	5-570 A 10-43 V	▲	▲				■	■	■	■	3	50,60	41	E5.170
	STT		5-325 A					STT	■							
Multi-Weld System	CC CV	DC+ only	30-350 A 15-40 V	■					■	■	■	▲	3	50,60	43	E5.300

Power Source	OUTPUT				PROCESS				INPUT		
	Mode	Polarity	Range: A = amps V = volts	Cutting Thickness	Cut	Gouge	Pierce	Phase	Hertz	Page	Literature

Plasma

Pro-Cut 25	CC	DC	12-25 A	3/8" maximum	■	▲	▲	1	50,60	91	E11.51
Pro-Cut 55	CC	DC	25-60 A	3/4" maximum	■	■	■	1/3	50,60	92	E11.60
Pro-Cut 80	CC	DC	35-85 A	1-1/4" maximum	■	■	■	1/3	50,60	93	E11.70

KEY: Excellent ■ Good/Fair ▲ Optional ●

POWER SOURCE SELECTION GUIDE

Power Source	OUTPUT										PROCESS				
	Mode	Polarity	Range: A = amps V = volts	Stick	TIG Scratch	TIG Touch-Start™	TIG Hi-Freq®	MIG	Pulsed	Flux-Cored	Submerged Arc	Arc Coupling Engine	Page	Literature	

Engine Driven Welders

Power Arc 4000	CC	AC	70-125 A 4 KW	■								G	44	E6.20 E6.20.1
Weldanpower 125	CC	DC	50-125 A 4.5 KW	■	▲							G	45	E6.51
Ranger 10,000	CC/CV	AC DC	50-225 A 50-210 A 10p KW	■	▲		●	▲	■	■		G	46	E6.92
Ranger 3 Phase	CC/CV	AC DC	50-225 A 50-210 A 11.5p KW	■	▲		●	▲	■	■		G	47	E6.94
Ranger 250	CC/CV	DC	20-250 A 9p KW	■	■	■	●	■	■	■		G	49	E6.103
Ranger 250 LPG	CC/CV	DC	20-250 A 9p KW	■	■	■	●	■	■	■		LPG	50	E6.104
Ranger 305G	CC/CV	DC	20-305 A 10p KW	■	■	■	●	■	■	■		G	51	E6.117
Ranger 305D	CC/CV	DC	20-305 A 10p KW	■	■	■	●	■	■	■		D	52	E6.118
SAE-400	CC	DC	80-575 A 3 KW	■	▲		●		●	■		D	53	E6.180
SAE-400 Weld 'N Air	CC	DC	80-575 A 3 KW	■	▲		●		●	■		D	54	E6.185
SAE-400 Severe Duty	CC	DC	80-575 A 3 KW	■	▲					■		D	55	E6.180.1
Pipeliners 200G	CC	DC	40-300 A 1.75 KW	■			●		●	■		G	56	E6.131
Pipeliners 200D	CC	DC	40-300 A 1.75 KW	■			●		●	■		D	57	E6.132
Classic II	CC	DC	40-325 A 3 KW	■	▲		●	●	●	■		D	58	E6.140
Classic 300G	CC	DC	40-350 A 3 KW	■	▲		●	●	●	■		G	59	E6.156
Classic 300D	CC	DC	40-350 A 3 KW	■	▲		●	●	●	■		D	60	E6.155
Commander 300	CC/CV	DC	30-375 A 10 KW	■	■	■	●	■	■	■		D	61	E6.205
Vantage 500	CC/CV	DC	30-575 A 12 KW	■	■	■	●	■	■	■		D	62	E6.216
Air Vantage 500	CC/CV	DC	30-575 A 12 KW-1 20 KW-3	■	■	■	●	■	■	■		D	63	E6.217

KEY: Excellent ■ Good/Fair ▲ Optional ●

AC-225C



Output   Input  

The AC-225C is a stick welding power source with continuous output control from 40-225 amps. The AC-225C produces an extremely smooth welding arc, at any amperage setting, for most welding applications. The AC-225C can be used for a variety of materials including carbon, low alloy and stainless steels, from 16 gauge sheet metal to heavy plate.

Processes

Stick

Advantage Lincoln

- Continuous output control for fine heat adjustment.
- Easy to set-up. Comes with attached input cable and plug.
- Easy to operate with full range continuous amperage output control.
- Low cost operation, only a few cents per welding hour.

- Smooth arc makes it easy to weld with different electrodes, including mild steel, low hydrogen, stainless steel and hardfacing electrodes.
- 225 amp AC output is enough for 3/16" diameter general purpose mild steel electrodes and most 5/32" sizes.
- Optional carbon arc torch for brazing and soldering applications, for heating rusty nuts for easier removal, and for bending or straightening metal.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Base Unit Includes

- Insulated electrode holder and cable.
- Heavy duty work clamp and cable.
- Sample pack of electrodes.
- Helpful Welder's Guide.
- Input cable with attached plug.

Order

K1357 AC-225C 230/1/60

Literature

E2.40

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
AC-225C	K1357	230/1/60	170A/25V/20% Max. Output: 225A/25V/10%	45A Max: 50A	40-225 Amps Max. OCV: 58V	15.25 x 14 x 13.5 (387 x 356 x 343)	84 (38)

AC-225



Output **CC** **AC** Input **1** **60** **50**
PHASE Hz Hz

The AC-225 is Lincoln's best selling arc welder of all time. It has a broad welding amperage range of 40-225 amps. The AC-225 produces an extremely smooth AC arc for welding a wide variety of materials including carbon, low alloy, and stainless steels as well as cast iron. Metals 16 gauge and heavier can be easily arc welded with the AC-225.

Processes

Stick

Advantage Lincoln

- Easy to install. Comes with attached input cable and plug.
- Easy to operate. Full range 40-225 amp selector switch quickly sets the welding current and ensures a uniform arc each and every time you weld.
- Smooth arc makes it easy to weld with different electrodes, including mild steel, low hydrogen, stainless steel and hardfacing electrodes.

- 225 amp AC output is enough for 3/16" diameter general purpose mild steel electrodes and 5/32" sizes of other electrodes.
- Optional carbon arc torch for brazing and soldering applications, for heating rusty nuts for easier removal, and for bending or straightening metal.
- Fan-cooled for extra thermal protection.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Base Unit Includes

- Insulated electrode holder and cable.
- Lightweight headdress with lenses.
- Heavy duty work clamp and cable.
- Sample pack of electrodes.
- Helpful Welder's Guide.
- Input cable with attached plug.

Recommended General Options

Wheel Kit

Order

- K1170 AC-225 230/1/60
- K1170-4 AC-225 230/1/60 (includes Wheel Kit and Gloves)
- K1290 AC-225 220/1/50

Literature

E2.30

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle(1)	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
AC-225	K1170 K1170-4	230/1/60	225A/25V/20%(1)	50A	40-225 Amps Max. OCV: 79V	24 x 17.25 x 12 (610 x 438 x 305)	109 (49.5)
AC-225	K1290	220/1/50	225A/25V/15%	63A	50-250 Amps Max. OCV: 76V		108 (49.0)

(1) Except 75 amp setting which can be used continuously for 1 hour.

AC/DC 225/125



Output **CC** **AC/DC** Input **1 PHASE** **60 Hz** **50 Hz**

The AC/DC 225/125 is the deluxe version of the world renowned AC-225 arc welder. The AC/DC 225/125 is an arc welding power source with an AC welding output range of 40-225 amps and a DC welding output range of 30-125 amps. It is an extremely useful stick welding power source for maintenance repair, fabrication, construction, erecting and hardfacing applications. Can also be used for cutting and piercing holes in steel.

Processes

Stick, TIG

Advantage Lincoln

- Easy to install. Comes with attached input power cable and plug.
- Easy to operate with front mounted AC/DC polarity switch and full range amperage selector switch for accurate and dependable procedure setting.
- Traditional design provides long-life and low cost operation.

- Compact size allows for easy storage and handling.
- AC or DC welding output for complete stick welding versatility.
- Smooth arc makes it easy to weld with different electrodes, including mild steel, low hydrogen, stainless steel and hardfacing electrodes.
- Use the electrode polarity switch on the front of the machine to select a DC welding arc where a stable arc is essential.
- Select an AC welding arc for large diameter general purpose electrodes for welding heavier plate where higher deposition rates and travel speeds are desired.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Base Unit Includes

- Insulated electrode holder and cable.
- Heavy duty work clamp and cable.
- Helpful Welder's Guide.
- Input cable with attached plug.

Recommended General Options

Wheel Kit

Order

K1297	AC/DC 225/125	230/1/60
K1299	AC/DC 225/125	220/1/50

Literature

E2.60

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
AC/DC 225/125	K1297	230/1/60	AC: 225A/25V/20% DC: 125A/25V/20%	AC: 50 DC: 36	40-225 Amps AC Max. OCV: 79V 30-125 Amps DC Max. OCV: 73V	24 x 17.25 x 12 (610 x 438 x 305)	124 (56.3)
AC/DC 225/125	K1299	220/1/50	AC: 225A/25V/15% DC: 125A/25V/15%	AC: 55 DC: 41	50-250 Amps AC Max. OCV: 76V 35-135 Amps DC Max. OCV: 69V		123 (55.8)

Idealarc[®] 250



Output   Input   

The Idealarc 250 is the classic workhorse of the Lincoln Electric stick welding power source line. It produces up to 300 amps of brute AC welding strength or down to 40 amps of smooth DC welding performance. Add the optional TIG Module to create a versatile AC/DC TIG welder for welding aluminum or other alloy metals. The Idealarc 250 is well suited for industrial production welding applications, for maintenance and repair shops where welding versatility is needed, and for the shop or farm where ruggedness and durability is required.

Processes

Stick, TIG, Gouging

Advantage Lincoln

- Outstanding arc stability, transformer design and built-in stabilizer provides popout-resistant welding with all AC electrodes.
- AC output is 300 amps maximum. 250 amps DC output for maximum quality with every type of electrode including low hydrogen, stainless steel, hardfacing, aluminum and bronze.

- Easy set-up and operation. Full range continuous current control dial with current indicator for exact heat required for each job.
- Change polarity with a twist of the wrist — AC, DC+ or DC-.
- Stackable case design allows machines to be stacked 3 high to save valuable floor space.
- Fan-cooled for extra thermal protection.
- 60Hz models CSA NRTL/C certified.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Power Factor Capacitor Kit, Undercarriage

Recommended Stick Options

Accessory Kit

Recommended TIG Options

TIG Module, Contactor Kit, TIG Module Control Cable

Order

K1053-7	Idealarc 250	208/230/460/1/60
K1053-8	Idealarc 250	230/460/575/1/60
K1054-3	Idealarc 250	380/415/500/1/50
K1054-4	Idealarc 250	220/380/440/1/50

With Power Factor Capacitors:

K1053-9	Idealarc 250	208/230/460/1/60
K1053-10	Idealarc 250	230/460/575/1/60

Literature

E2.70

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
Idealarc 250	K1053-7	208/230/460/1/60	AC: 250A/30V/30% DC: 250A/30V/30%	95/86/43A	35-300 Amps AC Max. OCV: 72V	27 x 19 x 21.5 (686 x 483 x 546)	350 (159)
	K1053-9 (w/PFC)			75/68/34A			
	K1053-8	230/460/575/1/60	86/43/34A	40-250 Amps DC Max. OCV: 70V			
	K1053-10 (w/PFC)		68/34/27A				
	K1054-3		50/46/38A				
K1054-4	220/380/440/1/50	86/50/43A					

Invertec® V100-S



The Invertec V100-S is an ultra high speed inverter power source that delivers premium arc performance in one of the smallest packages available today. The V100-S provides this level of performance in both stick welding and scratch start TIG welding modes.

Processes

Stick, TIG

Advantage Lincoln

- Great for stick welding with popular Lincoln electrodes such as Fleetweld® 35, Fleetweld 37, Fleetweld 180 and Excalibur™ 7018.
- Scratch start DC TIG operation with premium arc welding performance down to as low as 8 amps.
- Built-in "Hot Start" for easy electrode starting.

- Compact, lightweight design weighs less than 10 lbs. for the ultimate in portability.
- 115V input for use in a wide variety of locations.
- Rugged plastic case for worry-free portability and shock resistance.
- Thermostatic protection for long life of electronic components.
- Built-in "over voltage" protection.
- Illuminated On/Off switch for easy user feedback.
- Meets IEC 60974-1 standards for safety.
- One-year warranty on parts and labor.

Base Unit Includes

- Twist-Mate™ plug
- Stick electrode holder and cable
- Work clamp and cable

Recommended TIG Options

PTA-17V 2 cable TIG Torch, PTA-17V Parts Kit

Order

K1577-1 Invertec V100-S 115/1/50/60

Literature

E2.140

Product Name	Product Number	Input Power(1)	Rated Output Current/Voltage/ Duty Cycle(2)	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
Invertec V100-S	K1577-1	115/1/50/60	100A/24V/15% 85A/23.5V/20% 70A/23V/20%	32A(3) 25A(4) 20A	8-100A 20-24V Max. OCV: 67V	6 x 10 x 14 (152 x 254 x 356)	9.9 (4.5)

(1) Input power above 20% of nominal will cause internal damage.
 (2) Higher duty cycles can be achieved when TIG welding because the welding voltage is lower.
 (3) Requires a 30 amp branch circuit.
 (4) Requires a 20 amp branch circuit.

Invertec® V160-S



The Invertec V160-S DC inverter stick welder exhibits excellent arc control, for popular electrodes such as Fleetweld® 35, Fleetweld 37, Fleetweld 180 and Excalibur™ 7018. Add an optional gas valve style TIG torch and you also have a very affordable DC Touch-Start™ TIG welding machine. Its auto-reconnect 115/230V 50/60Hz input combined with its rugged, portable package make it ideal for remote welding applications.

Processes

Stick, TIG

Advantage Lincoln

- Suitable for a wide range of operations with an output range from 5 – 160 DC amps.
- Two modes of operation: Stick and DC Touch-Start™ TIG.
- Ideal for stick welding with popular Lincoln electrodes, including Fleetweld 35, Fleetweld 37, and Excalibur 7018.
- Features adjustable arc control to adjust the arc force and start characteristics.

- Advanced inverter technology for superior arc performance.
- Lightweight, rugged package for ultimate portability and durability.
- Auto-reconnect between 115/230V 50/60Hz input power eliminates operator error.
- Line voltage compensation enables use on remote power from an engine driven generator.
- Thermal and voltage overload protection for long life of internal components.
- Three-year warranty on parts and labor.

Base Unit Includes

- 115V Input cord (10 ft.) and plug (NEMA 5-15P)
- 20 Amp Plug (NEMA 5-20P)
- Fully adjustable shoulder strap
- Stick electrode holder and cable
- Work clamp and cable

Recommended General Options
Welding Cart

Recommended Stick Options
Remote Output Control

Recommended TIG Options

TIG-Mate™ 17V Air-Cooled TIG Torch Starter Pack, Twist-Mate™ Torch Adapter, Foot Amptrol, Start Pedal Foot Amptrol, Hand Amptrol

Order

K1844-1 Invertec V160-S 115/230/1/50/60

Literature

E2.145

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output(1)	Output Range	Dimensions H x W x D inches (mm)	Net Weight lbs.(kg)
Invertec V160-S	K1844-1	115V/1/50/60 (20A Branch Circuit)	60A/22.4V/100% Stick 90A/13.6V/100% TIG	20A	5-160 Amps DC Max OCV: 48V	13 x 8 x 17 (330 x 203 x 432)	24 (11)
		115V/1/50/60 (30A Branch Circuit)	80A/23.2V/100% Stick 110A/14.4V/100% TIG	25A			
		230V/1/50/60 (30A Branch Circuit)	130A/25.2V/100% Stick 130A/15.2V/100% TIG	25A			

(1) Input amps on 60 Hz input.

Invertec® V275-S



Output **CC** **DC** Input **1/3 PHASE** **60 Hz** **50 Hz**

The V275-S power source is ideal for the rigors of the construction site. IP23S rated and equipped with weather-resistant features, this Stick and TIG power source is designed for outdoor use. Up to 275 amps of output gives you access to a greater number of stick electrodes, and outstanding E6010 performance (Fleetweld 5P). The V275-S is available as a single unit or mounted in 8-pack racks for convenience on the construction site. Standard features such as selectable Hot Start and adjustable Arc Force provide a level of arc control you won't find anywhere else in this class of machine.

Processes

Stick, TIG, Gouging

Advantage Lincoln

- Truly outstanding E6010 and E7018 performance using up to 7/32" (5.6mm) diameter electrodes that enables both whip and drag techniques for a variety of construction and fabrication applications.
- Touch-Start TIG™ design permits the DC TIG welding arc to be established without high-frequency starting.
- Air Carbon Arc cutting and gouging with up to 3/16" (4.8mm) diameter carbon electrode.

- Adjustable Arc Force and a two-position Hot Start switch provide a level of arc control you won't find in comparable machines.
- 25 more amps than competitor models provides access to a greater number of stick electrode types, diameters, and applications.
- No de-rating on single phase as with competitive models – get the same performance using single or three phase input.
- Only power source in its class that meets IP23S environmental rating.
- Aluminum chassis, protective boots on switches and potted and trayed PC boards for extreme environmental protection.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Twist-Mate™ Cable Receptacle, Twist-Mate Cable Plug

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

17V Air-Cooled TIG-Mate™ Starter Pack, Twist-Mate Torch Adapter, Foot Amptrol™, Hand Amptrol,

Order

- K2269-1 Invertec V275-S
- K2269-2 Invertec V275-S (Rack Model)
- K2199-2 Invertec V275-S 8-pack Inverter Rack

Literature

E2.161

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Invertec V275-S	K2269-1	208/230/460/ 575/3/60	275A/31V/35%	38/37/19/16	5-275A	13.6 x 9.0 x 20.25 (345 x 229 x 514)	54.5 (24.7)
			250A/30V/60%	34/33/17/14			
		208/230/460/ 575/1/60	200A/28V/100%	27/25/13/11			
			275A/29-31V/35%	68/67/38/31			
220/380/400/ 415/440/3/50	250A/30V/35%	200A/28V/100%	32/20/19/18/17	5-250A			
			25/15/15/14/13				
220/380/400/ 415/440/1/50	250A/30V/35%	200A/28V/100%	63/42/40/38/36				
			48/32/30/29/27				

R3R-400



Output   Input  

Look to the R3R-400 power source from Lincoln Electric for your heavy-duty stick welding needs. Whether you're using mild steel, low hydrogen, stainless steel or hardfacing electrodes, the Idealarc R3R-400 produces a smooth, quality arc for consistent results day-in and day-out. The R3R-400 provides piece of mind with its traditional, fan-cooled design for long life expectancy and low cost operation, calibrated current control knob for simple and easy procedure setting, and all weather protection including a powder paint finish for durability in even the roughest environments. The R3R-400 is also a proven DC TIG welder – simply add TIG accessories and a cylinder of shielding gas. Want to show off your arc gouging skills? The R3R-400 can help you do that too!

Processes

Stick, TIG, Gouging

Advantage Lincoln

- Great operator appeal. The R3R-400 produces a quality, low spatter, smooth arc without pop-outs. Line voltage fluctuations of up to ±10% are handled by the R3Rs input compensation function, which keeps the output constant.

- Easy to operate. Calibrated current control knob makes procedure setting simple and easy. Polarity switch, voltmeter and ammeter are standard.
- Smooth arc makes it easy to weld with mild steel, low hydrogen, stainless steel and hardfacing electrodes.
- Stackable case design with built-in lift hook allows for easy storage and handling. Machines can safely be stacked three high to conserve floor space.
- Submersion dipped transformer assembly for added corrosion and moisture protection.
- Totally enclosed fan motor is permanently lubricated.
- Designed to NEMA specifications.
- The R3R-400 is capable of arc gouging using a carbon electrode with a maximum diameter of 5/16" (7.9mm).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Undercarriage

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

Pro-Torch™ TIG Torches, TIG Module, Docking Kit, Hand Amptrol®, Foot Amptrol, Contactor Kit, Water Valve Kit, TIG Control Cable, TIG Control Cable Extension, Deluxe Adjustable Gas Regulator and Hose Kit

Order

K1285-16 230/460/3/60

Literature

E2.100

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
R3R-400	K1285-16	230/460/3/60	400A/36V/60%	74/37A	60-500A Max. OCV: 67V	27.5 x 22.3 x 32 (699 x 566 x 813)	402 (183)

R3R-500



Output   Input  

Look to the R3R-500 power source from Lincoln Electric for your heavy-duty stick welding needs. Whether you're using mild steel, low hydrogen, stainless steel or hardfacing electrodes, the Idealarc R3R-500 produces a smooth, quality arc for consistent results day-in and day-out. The R3R-500 provides piece of mind with its traditional, fan-cooled design for long life expectancy and low cost operation, calibrated current control knob for simple and easy procedure setting, and all weather protection including a powder paint finish for durability in even the roughest environments. The R3R-500 is also a proven DC TIG welder – simply add TIG accessories and a cylinder of shielding gas. Want to show off your arc gouging skills? The R3R-500 can help you do that too!

Processes

Stick, TIG, Gouging

Advantage Lincoln

- Great operator appeal. The R3R-500 produces a quality, low spatter, smooth arc without pop-outs. Line voltage fluctuations of up to ±10% are handled by the R3Rs input compensation function, which keeps the output constant.

- Easy to operate. Calibrated current control knob makes procedure setting simple and easy. Polarity switch, voltmeter and ammeter are standard.
- Smooth arc makes it easy to weld with mild steel, low hydrogen, stainless steel and hardfacing electrodes.
- Stackable case design with built-in lift hook allows for easy storage and handling. Machines can safely be stacked three high to conserve floor space.
- Submersion dipped transformer assembly for added corrosion and moisture protection.
- Totally enclosed fan motor is permanently lubricated.
- Designed to NEMA specifications.
- The R3R-500 is capable of arc gouging using a carbon electrode with a maximum diameter of 3/8" (9.5mm).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Undercarriage

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

Pro-Torch™ TIG Torches, TIG Module, Docking Kit, Hand Amptrol®, Foot Amptrol, Contactor Kit, Water Valve Kit, TIG Control Cable, TIG Control Cable Extension, Deluxe Adjustable Gas Regulator and Hose Kit

Order

K1286-16 230/460/3/60

Literature

E2.100

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
R3R-500	K1286-16	230/460/3/60	500A/40V/60%	88/44A	75-625A Max OCV: 67V	27.5 x 22.3 x 32 (699 x 566 x 813)	446 (203)

Square Wave™ TIG 175 PRO



The Square Wave TIG 175 PRO features the industry-proven arc performance and reliability preferred by race teams, aviation enthusiasts and light industrial TIG fabricators, especially for low amperage applications. This great AC/DC TIG and stick welder delivers a wide and useful amperage range – go as low as 8 amps! Professional level features include Square Wave™ Technology for smooth arc stability and Auto Balance™ AC TIG control.

Processes

Stick, TIG

Advantage Lincoln

- Excellent low amperage TIG starting performance – down to 8 amps DC, 9 amps AC.
- Square Wave™ Technology reduces tungsten spitting and resulting electrode erosion and delivers a smooth, stable AC welding arc.
- Great general purpose stick welder on both AC and DC for steel, stainless steel, cast iron and hardfacing applications.
- Standard Auto Balance™ control automatically provides optimal mix of cleaning action vs. penetration for each

amperage setting without complex, or difficult to understand, user controls.

- Pulse TIG welding capable – When you're ready, expand your TIG welding potential with the optional TIG pulser unit.
- Shielding Gas Prewflow and Postflow – Built-in 1/2 second preflow and 15 second afterflow timers purge and protect the weld and tungsten.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on power source. One year on Foot Amptrol®, Regulator & Flow Gauge and TIG Torch & Cable. 90 days warranty on Electrode Holder & Cable and Work Clamp & Cable.

Base Unit Includes

PTA-9 TIG Torch, Twist-Mate Torch Adapter, Foot Amptrol, Gas Regulator & Flow Gauge, Stick Electrode Holder, Work Clamp & Cable, Input Cable (K1478-3 only), Sample Pack Stick Electrode, Instructional Video

Recommended General Options

Undercarriage

Recommended TIG Options

Hand Amptrol, Start Pedal Foot Amptrol, Arc Start Switch, Parts Kit, TIG Pulser, Cut Length Consumables, Pro-Torch™ TIG Torches, Twist-Mate Torch Adapter, Cool-Arc™ 40 Water Cooler, Water Cooler Hoses (CGA to CGA), Water Hose Coupler

Order

K1478-3	Square Wave TIG 175 PRO	208/230/1/60
K1478-4	Square Wave TIG 175 PRO	460/575/1/60
K1582-2	Square Wave TIG 175 PRO	240/380/415/1/50/60

Literature

E3.35

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle(1)	Input Current @ Rated Output DC TIG & AC/DC Stick		Output Range(2)	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
				DC TIG	AC TIG			
Square Wave TIG 175 PRO	K1478-3	208/230/1/60	150A/26V/25%	59/53A	72/65(3)A	DC: 8-175A AC: 9-175A Max. OCV: 59V DC Max. OCV: 74V AC	19.5 x 13.7 x 25.0 (495 x 348 x 635)	185 (84)
	K1478-4	460/575/1/60		27/22A	33/27A			
	K1582-2	240/380/415/1/50/60		54/33/30A	71/41/37A			

(1) Based on a 10 minute period. Additional ratings include: 125A/25V/40%, 110A/24V/60% and 90A/24V/100%. All ratings at 104°F (40°C).

(2) With Amptrol. Without Amptrol, 10-175A DC and AC.

(3) The National Electrical Code permits operation at rated output and duty cycle from a 50 amp receptacle when supply lines and fuses are properly sized. See Power Source operator's manual.

Precision TIG™

The Power To Perform!



"To stay competitive in racing, we have to use the best equipment and the best tools. We provide our race teams with the best and Lincoln Electric is our first choice in welding and cutting equipment. Furthermore, we know we can call on Lincoln to help with our welding application questions and to help with training through their Motorsports welding school. Quality equipment and support from Lincoln Electric - you can count on it."






*Chip Ganassi, Owner
Chip Ganassi Racing
IRL and NASCAR Race Teams*

LINCOLN®
ELECTRIC
THE WELDING EXPERTS

www.lincolnelectric.com

Precision TIG™ 275



Output   Input   

The Power To Perform!

Patented Micro-Start™ Technology provides unrivaled and revolutionary arc performance ideal for critical AC or DC welding in fabrication, aerospace, production, motorsports, and vocational applications. Available in both machine-only models or in a convenient Ready-Pak™ Package, the Precision TIG™ 275 combines both outstanding value-added features, with precision arc performance to meet all of your welding needs.

Processes

Stick, TIG

Advantage Lincoln

- Patented Micro-Start™ technology for state-of-the-art low amperage starting: as low as 2 amps DC, or 5 amps AC.
- Smooth, controllable focused arc for precision TIG welding performance.
- Neat/organized cable management with integrated torch holster.

- Water-cooled torch connections with no adapters – side mounted to keep out of the way and protected.
- Take the hassle out of ordering - Order a Ready-Pak™ pre-assembled welding package.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Advanced Control Panel, Undercarriage, Power Factor Kit, Work Clamp and Cable Assembly

Recommended Stick Options

Stick Accessory Kit, Remote Output Control

Recommended TIG Options

Pro-Torch™ TIG Torches, Cable Adapters, Under-Cooler Cart Water Cooler, Water Solenoid Kit, Harris® Argon Flowmeter Regulator, Foot Amptrol®, Start Pedal Foot Amptrol, Hand Amptrol, Arc Start Switch, Cut Length Consumables

Order

K1826-1	Precision TIG 275	208/230/460/1/60
K1826-2	Precision TIG 275	460/575/1/60
K1827-1	Precision TIG 275	220-230/380-400/415/1/50/60
K1825-1	Precision TIG 275	208/230/460/1/60 (Ready-Pak™ Pkg.)



Literature

E3.42

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
Precision TIG 275	K1826-1	208/230/460/1/60	275A/31V/40%	80/72/36A with PFC	DC: 2-340A AC: 5-340A Max. OCV: 75V	31 x 22 x 26 (787 x 559 x 660)	397 (180)
			225A/29V/60%	104/94/47A w/o PFC			
	K1826-2	460/575/1/60	275A/31V/40%	35/28A with PFC			
			225A/29V/60%	47/38A w/o PFC			
	K1827-1	220/380/415/1/50/60	275A/31V/40%	82/47/43A with PFC			
			225A/29V/60%	103/60/53A w/o PFC 66/38/35 w/ PFC 87/50/46 w/o PFC			

Precision TIG™ 375



Output   Input   

The Power To Perform!

The Precision TIG™ 375 delivers the Power to Perform – setting a new standard in Square Wave Technology. Combining outstanding value-added features and patented Micro-Start™ Technology, the Precision TIG has the widest range of welding current in its class featuring up to 25 more amps of power at 40% duty cycle and a superior low-end. This machine comes standard with full featured sequencing and pulsing controls and power factor correction.

Processes

Stick, TIG

Advantage Lincoln

- Patented Micro-Start™ technology for state-of-the-art low amperage starting: as low as 2 amps DC, or 5 amps AC.
- Smooth, controllable focused arc for precision TIG welding performance.
- Neat/organized cable management with integrated torch holster.

- Water-cooled torch connections with no adapters – side mounted to keep out of the way and protected.
- Standard power factor correction for reduced input current draw.
- Take the hassle out of ordering - Order a Ready-Pak™ pre-assembled welding package.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Undercarriage, Work Clamp and Cable Assembly

Recommended Stick Options

Stick Accessory Kit, Remote Output Control

Recommended TIG Options

Pro-Torch™ TIG Torches, Cable Adapters, Under-Cooler Cart Water Cooler, Water Solenoid Kit, Harris® Argon Flowmeter Regulator, Foot Amptrol®, Start Pedal Foot Amptrol, Hand Amptrol, Arc Start Switch, Cut Length Consumables

Order

K1833-1	Precision TIG 375	208/230/460/1/60
K1833-2	Precision TIG 375	230/460/575/1/60
K1834-1	Precision TIG 375	220-230/380-400/415/1/50/60
K1903-1	Precision TIG 375	208/230/460/1/60 (Ready-Pak™ Pkg.)

Literature

E3.51

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
Precision TIG 375	K1833-1	208/230/460/1/60	375A/35V/40%	112/102/51A	DC: 2-420A AC: 5-420A Max. OCV: 80V	31 x 22 x 26 (787 x 559 x 660)	507 (230)
			350A/34V/60%	102/92/46A			
	K1833-2	230/460/575/1/60	375A/35V/40%	102/51/41A			
			350A/34V/60%	92/46/37A			
	K1834-1	230/380/415/1/50/60	375A/35V/40%	119/69/63A			
			350A/34V/60%	110/64/59A			

Invertec® V160-T



The Invertec® V160-T is a full function DC TIG inverter intended for alloy fabrication or critical maintenance work. Its built-in gas handling capability and choice of High Frequency or Touch-Start™ TIG starting make it ideal for a wide variety of tough TIG applications. The V160-T can also weld stick with a variety of popular Lincoln stick electrodes. Its portable, rugged design and auto-sensing 115/230V 50/60Hz operation make it ideal for both shop or field use.

Processes

Stick, TIG

Advantage Lincoln

- Advanced inverter technology delivers superior TIG performance.
- Selectable Touch-Start™ TIG starting or high frequency starting makes it easy to establish an arc under a variety of conditions.
- Built-in pulsing functions give you greater control over thin materials.
- Add TIG capability to your arsenal by using remote power from an engine driven generator.

- Auto-reconnect between 115/230V 50/60Hz input power eliminates operator error.
- Integral gas and power connector for simple torch connections and quick changes between TIG and stick welding.
- Lightweight, rugged package make it easy to take TIG welding capability where it's needed.
- Thermal and voltage overload protection for long life of internal components.
- Three-year warranty on parts and labor.

Base Unit Includes

- 115V Input cord (10 ft.) and plug (NEMA 5-15P)
- 20 Amp Plug (NEMA 5-20P)
- Twist-Mate™ Torch Adapter for PTA-9 or -17 one-piece torch
- Fully adjustable shoulder strap
- Work clamp and cable

Recommended General Options

Welding Cart

Recommended Stick Options

Stick Electrode Holder Cable Assembly

Recommended TIG Options

TIG-Mate™ 17 Air-Cooled TIG Torch Starter Pack, TIG-Mate™ 20 Water-Cooled TIG Torch Starter Pack, Harris® Argon Flowmeter Regulator, Foot Amptrol, Hand Amptrol, Arc Start Switch, Cool Arc 40 Water Cooler, Cut Length Consumables

Order

K1845-1 Invertec V160-T 115/230/1/50/60

Literature

E3.105

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output(1)	Output Range	Dimensions H x W x D inches (mm)	Net Weight lbs.(kg)
Invertec V160-T	K1845-1	115V/1/50/60 20A Branch Circuit	90A/13.6V/100% TIG 60A/22.4V/100% Stick	20A	5-160 Amps DC Max OCV: 48V	13 x 8 x 17 (330 x 203 x 432)	24 (10.8)
		115V/1/50/60 30A Branch Circuit	110A/14.4V/100% TIG 80A/23.2V/100% Stick	25A			
		230V/1/50/60 30A Branch Circuit	130A/15.2V/100% TIG 130A/25.2V/100% Stick	25A			

(1) Input amps on 60 Hz input.

Invertec® V205-T AC/DC



The Invertec V205-T AC/DC is ideal for critical AC or DC TIG welding applications. This full featured TIG welder is also capable of stick welding. Variable AC frequency allows you to focus the arc when precise arc control is required. The 115/230V auto-reconnect makes the V205-T AC/DC truly flexible and the rugged, portable, lightweight design is ideal for shop or field environments.

Processes

Stick, TIG

Advantage Lincoln

- Advanced inverter technology optimizes arc performance in a lightweight package. Weighs only 33 lbs. (15 kg).
- AC or DC output for a wide variety of material types and thicknesses.
- Three modes of operation DC TIG, AC TIG or Stick.
- Full-featured TIG controls.
- Auto-reconnects for 115/230V 50/60Hz input power.

- Line voltage compensation allows remote power from an engine driven generator.
- Adjustable AC frequency allows you to focus the arc for precise arc control.
- Take the hassle out of ordering - Order a One-Pak™ welding package (some assembly required).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Base Unit Includes

- 230V Input cord and plug (10 ft.)
- Twist-Mate™ Torch Adapter for PTA-9 or -17 one-piece torch
- Twist-Mate adapter for work cable
- Fully adjustable shoulder strap

Recommended General Options

Welding Cart

Recommended TIG Options

TIG-Mate™ 17 Air-Cooled TIG Torch Starter Pack, TIG-Mate™ 20 Water-Cooled TIG Torch Starter Pack, Harris® Argon Flowmeter Regulator, Foot Amprol, Hand Amprol, Arc Start Switch, Cut Length Consumables

Order

K1855-1	Invertec V205-T AC/DC	115/230/1/50/60
K2350-1	Invertec V205-T AC/DC	115/230/1/50/60 (One-Pak™ Pkg.)

Literature

E3.110

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output(1)	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
Invertec V205-T AC/DC	K1855-1	115V/1/50/60	150A/16.0V/ 40% TIG 120A/14.8V/ 60% TIG 100A/14.0V/100% TIG	34.0A 24.5A 18.9A	6-200A Max. OCV: 53.7V	15 x 8.5 x 19 (381 X 216 X 483)	33 (15)
		230V/1/50/60	200A/18.0V/ 40% TIG 170A/16.0V/ 60% TIG 140A/15.6V/100% TIG	28.8A 17.8A 14.2A			
		115V/1/50/60	110A/24.4V/ 35% Stick 90A/23.6V/ 60% Stick 70A/22.8V/100% Stick	34.0A 26.0A 18.9A			
		230V/1/50/60	180A/27.2V/ 35% Stick 150A/26.0V/ 60% Stick 130A/25.2V/100% Stick	28.8A 22.6A 18.7A			

(1) Input amps on 60Hz input.

CV-250



Output **CV** **DC** Input **3** **60**
PHASE Hz

The CV-250 is an efficient, value-packed, constant voltage DC power source that delivers superior arc stability and welding performance. The CV-250's smart engineering and sturdy construction make it an excellent choice for a wide range of welding applications – especially involving mild steel, stainless steel, aluminum and alloy welding materials.

Processes

MIG, Flux-Cored

Advantage Lincoln

- Digital voltmeter/ammeter facilitates operator confidence and precise settings.
- Magnum® Twist-Mate™ output connectors make hook-up – as well as changes in inductance or polarity – fast and easy. (Two Twist-Mate plugs included.)
- Quick, simple 14 pin MS-type (Amphenol®) wire feeder connection.
- Microprocessor-based control PC board has built-in diagnostics for quick troubleshooting.

- Internal components including windings, rectifiers and circuit boards are coated to protect against the effects of moisture and corrosives!
- Choose low inductance for applications involving CO₂ shielding gas, or when welding mild steel or very thin materials.
- Use high inductance for welding heavier materials or when using 75% Argon/25% CO₂ gas.
- Electronic and thermostatic protection from current overload and excessive temperatures.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Remote Output Control, Remote Control Cable Adapter, Twist-Mate™ Cable Connectors, Undercarriage, Universal Adapter Plug

Recommended Wire Feeder Options

LN-7, LN-7 GMA, LN-742, LN-10, DH-10, LN-15, LN-25, Cobramatic®

Order

K1355-4 CV-250 230/460/575/3/60

Literature

E4.10

NOTE: Cobramatic® is a registered trademark of MK Products, Inc.

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
CV-250	K1355-4	230/460/ 575/3/60	300A/32V/60% 250A/30V/100%	56/28/22A 51/26/20A	7-32V 30-300A Max. OCV: 50V	24.6 x 19.5 x 27 (625 x 495 x 686)	300 (136)

CV-300



Output **CV** **DC** Input **3** **60**
PHASE Hz

When it comes to welding mild steel, stainless steel, aluminum and alloy materials, you won't find a more reliable power source than Lincoln Electric's CV-300. Equipped with electronic and thermostatic protection, PC boards with built-in diagnostics and solid state circuitry, the CV-300 is built to last. This well-engineered constant voltage DC arc welding unit is also a versatile, steady performer. The dual inductance positions make it fast and easy to select desired output characteristics. Digital voltmeter and ammeter settings can be preset. The CV-300 generates an exceptional MIG and flux-cored arc.

Processes
 MIG, Flux-Cored

Advantage Lincoln

- Solid state circuitry provides extra long life during repetitive applications.
- Digital voltmeter/ammeter provides exceptional accuracy and precise presettable values.
- Microprocessor based control PC board has built-in diagnostic routines for quick, easy troubleshooting.
- All circuit boards are protected with a special insulated coating to extend life and ensure reliable performance.
- Electronic and thermostatic protection from current overload or excessive temperatures.

- Provides "cold electrode" with a solid state contactor when the trigger is released for added safety and convenience.
- Magnum® Twist-Mate™ output connectors make hook-up tool-less as well as changes in inductance or polarity fast and easy. Two Twist-Mate Cable Plugs (K852-95) included.
- Provides line voltage compensation for maintaining weld consistency, even with changes of ±10%.
- Choose low inductance connection when using CO₂ shielding gas, or when short arc welding mild steel or other thin materials.
- Choose high inductance connection when using 75% Argon/25% CO₂ gas, or when dealing with stainless steel or short arc welds on heavy materials.
- Take the hassle out of ordering - Order a Ready-Pak™ pre-assembled welding package.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Remote Output Control, Remote Control Cable Adapter, Twist-Mate™ Cable Connectors, Undercarriage, Universal Adapter Plug

Recommended Wire Feeder Options

LN-7, LN-7 GMA, LN-742, LN-10, DH-10, LN-15, LN-25, Cobramatic®

Order

K1352-1	CV-300	208/230/460/3/60
K1352-2	CV-300	230/460/575/3/60
K1791-2	CV-300	208/230/460/3/60 (Ready-Pak™ Package)

Literature

E4.20

NOTE: Cobramatic® is a registered trademark of MK Products, Inc.

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
CV-300	K1352-1	208/230/460/3/60	300A/32V/100% 400A/36V/60%	66/60/30A 67/61/31A	50-400A 7-37V	24.6 x 19.5 x 27 (625 x 495 x 686)	300 (136)
	K1352-2	230/460/575/3/60	300A/32V/100% 400A/36V/60%	60/30/24A 61/31/24A			

CV-400



Output **CV** **DC** Input **3** **60**
PHASE HZ

Why is the CV-400 one of our most popular power sources? Because it's a great combination of power, performance, and versatility. Designed primarily for industrial MIG and flux-cored applications, the CV-400 delivers excellent arc stability and weld consistency. This welding workhorse is an outstanding choice for heavy-duty jobs with materials such as mild steel, stainless steel, aluminum and alloy materials.

Processes

MIG, Flux-Cored, Gouging

Advantage Lincoln

- Full output control potentiometer and analog meters let operator accurately regulate power levels.
- Solid state circuitry provides extra long life during repetitive applications.
- Lincoln's unique fixed inductance design delivers exceptional arc characteristics.
- Optional factory installed diode allows utilization of cold-inch and sensing features of NA-3, NA-5, or NA-5R automatic feeders.

- Connect wire feeders via either 14-pin MS-type or terminal strip.
- Output studs for weld cables.
- 115V and 42V wire feeder auxiliary power with circuit breaker protection.
- Internal components, including windings, rectifiers and circuit boards, are coated to protect against the effects of moisture and corrosion!
- Electronic and thermostatic protection from current overload and excessive temperatures. Indicator light lets you know when machine is reset.
- Take the hassle out of ordering - Order a Ready-Pak™ pre-assembled welding package.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Remote Output Control, Remote Control Adapter, Undercarriage, Jumper Plug Kit

Recommended Wire Feeder Options

LN-7, LN-7 GMA, LN-742, LN-8, LN-9, LN-9 GMA, LN-10, DH-10, LN-15, LN-25, LN-35, NA-3, NA-5, NA-5R, Cobramatic®

Order

K1346-13	CV-400	230/460/3/60
K1346-14	CV-400 (with diode)	230/460/3/60
K2285-1	CV-400	230/460/3/60 (Ready-Pak™ Package)

Literature

E4.30

NOTE: Cobramatic® is a registered trademark of MK Products, Inc.

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @		Dimensions H x W x D inches (mm)	Net Weight lbs.(kg)
				Rated Output	Output Range		
CV-400	K1346-13	230/460/3/60	400A/36V/100% 450A/38V/60%	77/39A	60-500A 12-42V	27.5 x 22.2 x 32 (699 x 564 x 813)	383 (174)
	80/40A						
	K1346-14 (w/diode)						

CV-655



Output **CV** **DC** Input **3** **60** **50**
PHASE Hz Hz

Energy efficiency, reliability and exceptional performance are what set the CV-655 apart from the rest. Designed primarily for heavy-duty applications, the CV-655 is an outstanding choice for MIG and flux-cored welding on mild steel, stainless steel, aluminum and alloys. This sturdy, powerful DC power source handles CV semiautomatic submerged arc welding and arc gouging with ease. Equipped with electronic and thermostatic protection, PC boards with built-in diagnostics and solid state contactors, the CV-655 is built to last.

Processes

MIG, Flux-Cored, Submerged Arc, Gouging

Advantage Lincoln

- Calibrated output control lets operator accurately regulate power levels.
- Line voltage compensation maintains weld consistency, even with line voltage changes of $\pm 10\%$.
- 115-volt duplex receptacle provides 20 amps of auxiliary power.

- Separate output studs allow the operator to select high or low inductance.
- Panel switches allow operator to change settings at the power source or wire feeder.
- Solid state circuitry provides extra long life during repetitive applications.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Digital Meter Kit, Air Filter Kit, Dual Process Switch, Remote Output Control, Remote Control Adapter, Undercarriage

Recommended Wire Feeder Options

LN-7, LN-7 GMA, LN-742, LN-8, LN-9, LN-9 GMA, LN-10, DH-10, LN-15, LN-23P, LN-25, LN-35, NA-3, NA-4, NA-5, NA-5R, Cobramatic®

Order

K1480-1	CV-655	230/460/3/60
K1480-5	CV-655	575/3/60
K1481-1	CV-655	230/400/3/50/60
K1481-2	CV-655	380/500/3/50/60
K1481-4	CV-655	200/400/3/50/60
K1481-5	CV-655	415/3/50/60

Literature

E4.40

NOTE: Cobramatic® is a registered trademark of MK Products, Inc.

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
CV-655	K1480-1	230/460/3/60	650A/44V/100% 815A/44V/60%	94/47A	70-815A 13-44V Max. OCV: 48V	27.5 x 22.2 x 38.0 (699 x 565 x 965)	670 (304)
	K1480-5	575/3/60		38A			
	K1481-1	230/400/3/50/60		94/54A			
	K1481-2	380/500/3/50/60		56/43A			
	K1481-4	200/400/3/50/60		107/54A			
	K1481-5	415/3/50/60		52A			

Invertec® STT II®



Output **STT** **DC** Input **3** **60** **50**
PHASE Hz Hz

STT – Surface Tension Transfer®

Tired of spatter, fumes, burnthrough, or poor fit-up slowing down productivity? The revolutionary STT II power source can solve your welding problems by combining high frequency inverter technology with advanced Waveform Control Technology™ in place of traditional short arc MIG welding. The STT II's precise control of the electrode current during the entire welding cycle significantly reduces fumes, spatter, and grinding time. In addition, the unit offers independent control of wire feed speed and current.

Processes

MIG-STT®

Advantage Lincoln

- Current is provided independent of wire feed speed unlike conventional machines.
- Operates with larger diameter wires to potentially lower electrode costs.
- Requires less operator skill and minimal training.
- Produces less fumes to help protect workers and the environment.
- Hot Start control to provide arc starting precision.

- Eliminates cold lapping on open root joints for pipe and pressure vessels.
- Designed for optimum arc performance with 100% CO₂ on steel.
- Accurate control of heat input reduces distortion and burnthrough.
- Minimal spatter reduces cleaning time of parts and fixturing.
- Background tailout current controls beadshape, penetration and the overall heat input.
- Peak and Background current LED meters for accurate procedure setting.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Power Source Remote Output Control, Twist-Mate™ Cable Connectors, STT Sense Lead Kit, Inverter and Wire Feeder Cart

Recommended Wire Feeder Options

STT-10, LN-742, LN-15

Order

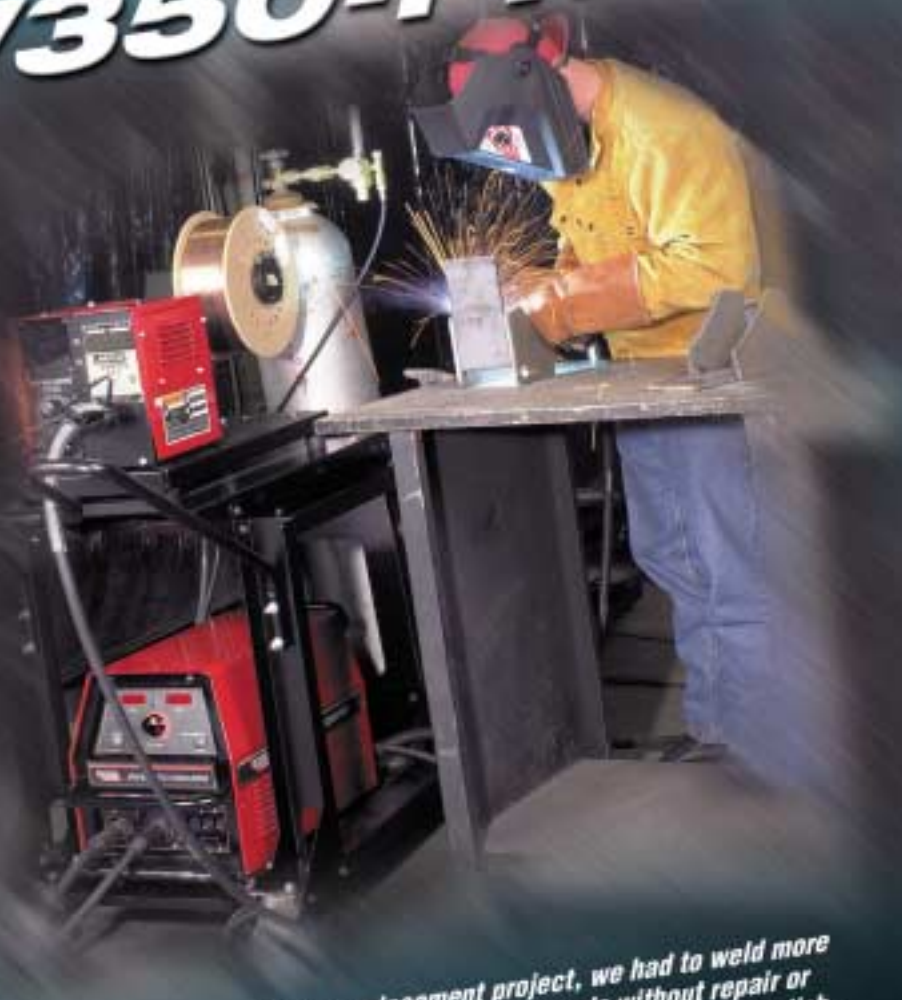
- K1525-1 208/230/460/3/60
- K1526-1 200/220/380/415/440/3/50/60
- K1526-2 200/208/380/400/415/3/50/60

Literature

E4.52

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Invertec STT II	K1525-1	208/230/460/3/60	225A/29V/60% 200A/28V/100%	32/30/16A	Peak Current: 0-450A Background Current: 0-125A Max. OCV: 85V	23.2 x 13.2 x 24.4 (589 x 336 x 620)	117 (53)
	K1526-1	200/220/380/415/ 440/3/50/60					
	K1526-2	200/208/380/400/415					

Invertec® V350-PRO



"On one recent boiler super heater replacement project, we had to weld more than 2,000 tube butt joints. All of these welds were made without repair or equipment failure with many hours of continuous work – a major accomplishment to the Invertec® V350-PRO units and the skill of our operators."

*David Nuckols, Quality Manager
The Horn Companies
Owensboro, KY*

LINCOLN®
ELECTRIC
THE WELDING EXPERTS

www.lincolnelectric.com

Invertec® V350-PRO



The Invertec V350-PRO is a versatile, multi-purpose, multi-process power source that's lightweight and portable. Available in construction, factory, advanced process and factory rack models, the V350-PRO is capable of doing virtually any job, whether in the shop or on the construction site. The V350-PRO is capable of stick, DC TIG, MIG, Pulsed MIG⁽¹⁾, flux-cored and arc gouging, making it the most versatile inverter power source in its class. And it's built tough to handle the rigors of harsh environments.

Processes

Stick, TIG, MIG, Pulsed⁽¹⁾, Flux-Cored, Gouging

Advantage Lincoln

- Choose the Construction Model for economy and lightweight portability, the Factory Model for full remote capabilities, and the Advanced Process Model for pulsed MIG applications.
- All input voltages and frequencies are both single and three phase rated—no output derating necessary on single phase.
- 5-425 amp output range for all recommended processes from TIG to arc gouging.
- Input voltage from 208-575—this one machine is capable of running on virtually any input power supply.
- 50 and 60 Hz operation—can be connected anywhere in the world.
- Touch-Start™ TIG for contamination-free starts.

(1) Advanced Process Panel, only.

NOTE: Cobramatic® is a registered trademark of MK Products, Inc.

- 87% efficiency—low power consumption for energy savings.
- Advanced Process model includes Pulsed MIG, Pulse-On-Pulse™ and Power Mode™ for best-in-class welding performance.
- Take the hassle out of ordering - Order a Ready-Pak™ pre-assembled welding package.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Advanced Process Panel (for Factory Model only), Deluxe Adjustable Gas Regulator & Hose Kit, Work & Wire Feeder 2/0 Power Cable Package, Twist-Mate Cable Plug, Twist-Mate Cable Receptacle, Twist-Mate to Lug Adapter, Inverter and Wire Feeder Cart, Dual Cylinder Kit, Valet Style Undercarriage

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

Pro-Torch™ TIG Torches, TIG Module, TIG Module Control Cable, Control Cable Extension, Hand Amptrol®, Foot Amptrol, Arc Start Switch, Invertec TIG Solenoid Kit, Twist-Mate Torch Adapter, TIG-Mate™ 17V Air-Cooled TIG Torch Starter Pack, TIG-Mate™ 17 Air-Cooled TIG Torch Starter Pack, TIG-Mate™ 20 Water-Cooled TIG Torch Starter Pack

Recommended Wire Feeder Options

LN-7, LN-7 GMA, LN-742, LN-10, DH-10, LN-15, LN-25, Cobramatic®

Order

- K1728-5 Invertec V350-PRO (Construction Model)
- K1728-6 Invertec V350-PRO (Factory Model)
- K1728-7 Invertec V350-PRO (Advanced Process Model)
- K1728-11 Invertec V350-PRO (Factory Rack Model)
- K2198-1 4-Pack Inverter Rack with 4 Invertec V350-PRO Factory Rack Power Sources
- K2198-2 6-Pack Inverter Rack with 6 Invertec V350-PRO Factory Rack Power Sources
- K2146-1 V350-PRO Advanced Process Model/LN-7 GMA Ready-Pak Pkg.
- K2145-2 V350-PRO Advanced Process Model/Cobramatic Ready-Pak Pkg.
- K1843-2 V350-PRO Factory Model/LN-7 GMA Ready-Pak Pkg.

Literature

E5.91

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Invertec V350-PRO	K1728-5	200-208/230/380-	350A/34V/60%	3-ph: 50/42/28-26/23/18 1-ph: 94/85/54/42/37	5-425A Max OCV: 80V DC	14.8 x 13.3 x 27.9 (376 x 338 x 709)	81 (36.7)
	K1728-6	415/460/575/3/50/60					
	K1728-7	208/230/415/	300A/32V/100%				
	K1728-11	460/575/1/50/60					

DC-400



Output **CC** **CV** **DC** Input **3** **60** **50**
PHASE Hz Hz

This heavy-duty, industrial, three-phase multi-process power source from Lincoln Electric scores big in MIG, flux-cored, submerged arc, stick and DC TIG welding. It's a great choice for arc gouging too. And flexibility doesn't mean complicated – the DC-400 is easy to set-up and use.

Processes

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

Advantage Lincoln

- Large, conveniently located switch makes it easy to change between CC (stick/TIG/arc gouging), CV (MIG/flux-cored) and CV Submerged Arc modes.
- Arc force control adjusts short circuit current for a soft arc or a forceful driving arc in the CC (Stick/TIG) mode.
- Arc control adjustment changes pinch effect of the arc to control spatter, fluidity, and bead shape in the MIG/Flux-Cored mode.
- Solid state circuitry provides extra long life for repetitive welding applications.
- Outstanding welding performance with a single range full output control potentiometer.

- Low profile case allows stacking machines up to three high to conserve floor space.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Multi-process Switch, Deluxe Adjustable Gas Regulator and Hose Kit, Undercarriage

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

Pro-Torch™ TIG Torches, TIG Module, TIG Module Control Cable, Control Cable Extension, Docking Kit, Hand Amptrol®, Foot Amptrol, Remote Control Adapter, Amptrol Adapter Kit, Water Valve

Recommended Wire Feeder Options

LN-7, LN-7 GMA, LN-742, LN-8, LN-9, LN-9 GMA, LN-10, DH-10, LN-15, LN-23P, LN-25, LN-35, Cobramatic®, NA-3, NA-5, LT-7

Order

K1308-11	DC-400	230/460/3/60
K1308-12	DC-400 w/switch	230/460/3/60
K1309-20	DC-400	220/380/440/3/50/60
K1309-21	DC-400 w/switch	220/380/440/3/50/60

Literature

E5.20

NOTE: Cobramatic® is a registered trademark of MK Products, Inc.

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H(1) x W x D in. (mm)	Net Weight lbs (kg)
DC-400	K1308-11	230/460/3/60	400A/36V/100%	78/39A	60-500A 12-42V	30.8 x 22.3 x 33.1 (782 x 566 x 840)	473 (215)
	K1308-12		450A/38V/60%				
	K1309-20	220/380/440/ 3/50/60	500A/40V/50%	81/47/40A			
	K1309-21						

DC-600



Output **CC** **CV** **DC** Input **3** **60** **50**
PHASE Hz Hz

The DC-600 features serious multi-process welding with a full 600 amps of welding power. Welding experts who've experienced the DC-600 know that it is built for high performance – it can handle 24 hours-a-day, 7-days-a-week operation. This feature makes the DC-600 recognizable all over the globe as a leader in multi-process welding.

Processes

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

Advantage Lincoln

- Solid state circuitry provides extra long life for repetitive welding applications.
- Full range output voltage control for easy operation and precise control.
- Standard ammeter/voltmeter.
- Mode switch for selecting desired output characteristics.
- Windings and rectifiers protected against moisture and corrosive environments.

- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Multi-process Switch, TIG Module, Paralleling Kit, Undercarriage

Recommended Stick Options

Accessory Kit, Remote Output Control,

Recommended TIG Options

Pro-Torch™ TIG Torches, TIG Module, TIG Module Control Cable, Control Cable Extensions, Docking Kit, Hand Amptrol®, Foot Amptrol, Remote Control Adapter, Amptrol Adapter Kit, Water Valve

Recommended Wire Feeder Options

LN-7, LN-7 GMA, LN-742, LN-8, LN-9, LN-9 GMA, LN-10, DH-10, LN-15, LN-23P, LN-25, LN-35, Cobramatic®, NA-3, NA-5, LT-7

Order

K1288-17	DC-600	230/460/3/60
K1288-18	DC-600 w/switch	230/460/3/60
K1288-22	DC-600	230/460/5/75/3/60
K1288-23	DC-600 w/switch	230/460/5/75/3/60
K1365-23	DC-600	220/380/440/3/50/60
K1365-24	DC-600	380/500/3/50/60

Literature

E5.40

NOTE: Cobramatic® is a registered trademark of MK Products, Inc.

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
DC-600	K1288-17	230/460/3/60	600A/44V/100% 680A/44V/60%	108/54A	CV: 70-850A, 13-44V CC: 90-850A, 24-42V	30.7 x 22.2 x 38.0 (781 x 565 x 965)	522 (237)
	K1288-18			108/54/43.2A			
	K1288-22	117/68/58.5A					
	K1288-23			67.8/51.5A			
	K1365-23	220/380/440/3/50/60					
K1365-24	380/500/3/50/60						

DC-655



Output **CC** **CV** **DC** Input **3** **60** **50**
PHASE Hz Hz

This 650-amp, 100% duty cycle CV/CC power source is ideal for construction and shop fabrication because of its excellent arc performance and many energy saving features. This machine also has a high overall efficiency of 84% for even more energy and cost savings. Don't think you're sacrificing arc performance for efficiency; the DC-655 features a calibrated output knob for precise procedure setting and adjustable arc force for a tailored arc and ultimate low end performance – down to 50 amps – for stick, MIG and TIG performance.

Processes

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

Advantage Lincoln

- CC Arc Force Control Knob with built-in Hot Start
- Idle Shut Down mode automatically shuts machine off when not in use to minimize power consumption.
- Fan-As-Needed™ – solid state thermally controlled cooling fan operates only when required. Minimizes power consumption, operating noise and dust intake.
- Full range calibrated output voltage and current control for easy operation.
- Separate output studs let you choose low or high inductance.

- Optional digital ammeter/voltmeter kit. Easy front panel installation.
- 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.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Digital Meter Kit, Air Filter Kit, Dual Process Switch, Paralleling Kit, Undercarriage

Recommended Stick Options

Accessory Kit, Remote Output Control,

Recommended TIG Options

Pro-Torch™ TIG Torches, TIG Module, TIG Module Control Cable, Control Cable Extension, Docking Kit, Hand Amptrol®, Foot Amptrol, Remote Control Adapter, Amptrol Adapter Kit, Water Valve

Recommended Wire Feeder Options

LN-7, LN-7 GMA, LN-742, LN-8, LN-9, LN-9 GMA, LN-10, DH-10, LN-15, LN-23P, LN-25, LN-35, Cobramatic®, NA-3, NA-5, LT-7

Order

K1609-2	DC-655	230/460/575/3/60
K1609-4	DC-655	460/3/60
K1610-1	DC-655	230/400/3/50/60

Literature

E5.46

NOTE: Cobramatic® is a registered trademark of MK Products, Inc.

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
DC-655	K1609-2	230/460/575/ 3/60	650A/44V/100% (815A/44V/60%)	122/61/49A	13-44V 50-815A Max. OCV: 46V (CV) 68V (CC)	27.5 x 22.2 x 38.0 (699 x 564 x 965)	720 (327)
	K1609-4	460/3/60		61A			
	K1610-1	230/400/3/ 50/60		122/70A			

DC-1000



Output   Input   

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

Processes

MIG, Flux-Cored, Submerged Arc, Gouging

Advantage Lincoln

- Solid state circuitry for long life.
- Electronic and thermostatic protection with fan cooling.
- Stackable case design up to two high.

- Simple controls with clean appearance for easy operation.
- Windings and rectifiers protected against moisture and corrosive environments.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Remote Output Control and Adapter, Paralleling Kit

Recommended Wire Feeder Options

LN-9, LN-9 GMA, NA-3, NA-5, LT-7

Order

K1386-3	DC-1000	230/460/3/60
K1387-3	DC-1000	220/380/440/3/50/60
K1387-4	DC-1000	380/500/3/50/60
K1387-6	DC-1000	415/3/50/60

Literature

E5.50

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
DC-1000	K1386-3	230/460/3/60	1000A/44V/100%	193/96.5A	16-46V 150-1300A	30.7 x 22.5 x 39.0 (781 x 572 x 991)	821 (372)

DC-1500



Output    Input   

The 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. The precise output of the DC-1500 enhances productivity and quality control when used with Lincoln NA-3 and NA-5 automatic wire feeders, and the LT-56 and LT-7 tractors.

Processes

Flux-Cored, Submerged Arc, Gouging

Advantage Lincoln

- Solid state circuitry provides extra long life for repetitive welding applications.
- 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.
- Eight amp fuse protected 115V wire feeder auxiliary power with 1000 volt-amp capacity.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended General Options

Remote Output Control and Adapter, Paralleling Kit

Recommended Wire Feeder Options

NA-3, NA-5, LT-7, LT-56

Order

- K1275 Idealarc DC-1500 460/3/60
- K1383-4 Idealarc DC-1500 380/440/3/50/60

Literature

E5.60

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
DC-1500	K1275	460/3/60	1500A/44V/100% 1500A/60V/100%	814A	20-60V 200-1500A	57.2 x 22.3 x 38.0 (1453 x 566 x 965)	1420 (644)
	K1383-4	380/440/3/50/60		216A/187A			

AC-1200



The AC-1200 is the industry's leading 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 AC-1200 produces outstanding arc characteristics and is specifically designed for operation with Lincoln's NA-4 automatic wire feeder.

Processes
Submerged Arc

Advantage Lincoln

- 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.
- Fuse protected control circuit and 115V AC auxiliary power circuit.
- Solid state circuitry provides extra long life for repetitive welding applications.
- Removable side panels for easy access to internal parts.
- Windings and rectifiers protected against moisture and corrosive environments.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Recommended Wire Feeder Options
NA-4, LT-56

Order

K1276	AC-1200	460/1/60
K1382	AC-1200	440/1/50/60
K1382-5	AC-1200	380/1/50/60
K1382-6	AC-1200	415/1/50/60

Literature
E5.70

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
AC-1200	K1276	460/1/60	1200A/44V/100%	182A	60 Hz:	57.2 x 22 x 38 (1453 x 560 x 970)	1570 (712)
	K1382	440/1/50/60		190A	200-1500A		
	K1382-5	380/1/50/60		220A	50 Hz:		
	K1382-6	415/1/50/60		201A	240-1500A		

Power Wave® 355



Output **CC** **CV** **DC** Input **1/3** **50/60**
PHASE HZ

Intelligent Welding Systems

The Power Wave 355/Power Feed 10 welding system is factory programmed with over 60 standard welding programs to optimize the arc for a variety of materials or applications, including steel, stainless steel, aluminum, nickel alloys and others. Simply select a program and you have the right arc characteristics for your application. The software is upgradable, so your Power Wave 355 will grow with your business.

Processes

Stick, TIG, MIG, Pulsed, Flux-Cored, Gouging

Advantage Lincoln

- The Power Wave 355 is the smaller, lighter version of the Power Wave 455 – same machine, just leaner and lighter.
- Lincoln's Waveform Control Technology™ gives you the ability to select the right waveshape for each application – that means the arc has been optimized for each wire type and size for exceptionally smooth arc performance.
- Controls at the wire feeder, rather than at the power source, make it easy to select all welding parameters close to your work.
- New Power Mode™ maintains a stable, smooth arc for short arc welding on thin materials.

- New Pulse-on-Pulse™ Mode welding process improves cleaning action when welding aluminum and delivers a TIG-like appearance to the weld bead.
- Tighter control of welding process variables, ease of equipment use with a high degree of process versatility, and improved weld consistency are just a few of the benefits of Waveform Control Technology™.
- Take the hassle out of ordering – Order a Ready-Pak™ pre-assembled welding package.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Required Wire Feeder Options

Power Feed 10, Power Feed 10 Dual or Power Feed 15M (A wire feeder is required to run any of the processes listed above.), Magnum™ MIG Guns, Magnum Flux-Cored Guns, Work & Wire Feeder Power Cables Package

Recommended General Options

Adjustable Gas Regulator, Inverter and Wire Feeder Cart, Dual Cylinder Kit, Valet Style Undercarriage, Twist-Mate™ Cable Plugs, Twist-Mate™ Cable Receptacles, Twist-Mate™ to Lug Adapter, Sense Lead Kit, Wave Designer™ Software, Wave Designer Pro Software

Recommended Stick Options

Accessory Kit

Recommended TIG Options

Pro-Torch™ TIG Torches with gas valve, Twist-Mate™ Torch Adapter

Order

- K2152-1 200/208-230/380-400/415-460/575/1/3/50/60
- K2172-1 Power Wave 355/Power Feed 10 Wire Feeder Ready-Pak™ Pkg.

Literature

E5.145

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Power Wave 355	K2152-1	3 ph: 200/208-230/ 380-400/415-460/ 575/3/50/60 1 ph: 208-230/ 415-460/575/ 1/50/60	350A/34/60% (300A/32/100%)	3 ph: 50/50-42/ 28-27/26-23/18A 1 ph: 94-85/ 64-42/37A	5-425A 15-34V	14.8 x 13.3 x 27.9 (376 x 338 x 709mm)	81.5 (37)

Power Wave® 455



Simple. Innovative. Technologically Advanced. These are all words that describe the Power Wave 455. This next generation power source utilizes Waveform Control Technology™ for the finest welding arc in the industry. The Power Wave 455 is a high efficiency inverter designed for unprecedented ease of use and performance. Sophisticated software in the unit controls the welding waveform for reduced spatter, fumes, and an exceptionally smooth arc. This multi-process machine can be completely optimized for any arc welding process within its capabilities.

Processes

Stick, TIG, MIG, Pulsed, Flux-Cored, Gouging

Advantage Lincoln

- Extremely simple controls.
- Capable of running from basic CV to high performance pulsed programs.

- Set-up flexibility with one control cable that connects any combination of pieces.
- Can be easily upgraded from simple to high capabilities.
- Spacious inverter design for easy service.
- Take the hassle out of ordering - Order a Ready-Pak™ pre-assembled welding package.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Required Wire Feeder Options

Power Feed 10, Power Feed 10 Dual or Power Feed 15M (A wire feeder is required to run any of the processes listed above.), Magnum™ MIG Guns, Magnum Flux-Cored Guns, Work & Wire Feeder Power Cables Package

Recommended General Options

Undercarriage, Wave Designer™ Software

Recommended Stick Options

Accessory Kit

Recommended TIG Options

Pro-Torch™ TIG Torches with gas valve

Order

- K1517-6 208/230/460/575/3/50/60
- K2148-1 Power Wave 455/Power Feed 10 Wire Feeder Ready-Pak™ Pkg.

Literature

E5.160

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Power Wave 455	K1517-6	208/230/460/ 575/3/50/60	450A/38V/100% 570A/40V/60%	70/65/36/30A 87/82/48/40A	5-570A 10-43V	26 x 20 x 33 (660 x 508 x 838)	247 (112)

Power Wave® 455/STT



Output **CC** **DC** Input **3** **60** **50**
CV --- PHASE Hz Hz

The Power Wave 455/STT takes MIG welding to an all new pinnacle by combining the unique capabilities of Surface Tension Transfer™ and Waveform Control Technology™ for absolute premium MIG welding quality. Easily switch between the processes according to your application. There is just no other multi-process welding power source with this kind of functionality and versatility.

Processes

Stick, TIG, MIG, MIG-STT®, Pulsed, Flux-Cored, Gouging

Advantage Lincoln

- Extremely simple controls.
- Capable of running from basic CV to high performance pulse or STT programs.

- Set-up flexibility with one control cable that connects any combination of pieces.
- Can be easily upgraded from simple to high capabilities.
- Spacious inverter design for easy service.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Required Wire Feeder Options

Power Feed 10, Power Feed 10 Dual or Power Feed 15M (A wire feeder is required to run any of the processes listed above.), Magnum™ MIG Guns, Magnum Flux-Cored Guns, Work & Wire Feeder Power Cables Package

Recommended General Options

Undercarriage, Wave Designer™ Software

Recommended Stick Options

Accessory Kit

Recommended TIG Options

Pro-Torch™ TIG Torches with gas valve

Order

K1518-4 208/230/460/575/3/50/60
 K1518-5 380-415/3/50

Literature

E5.170

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range PW Stud	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Power Wave 455/STT	K1518-4	208/230/460/575/3/50/60	450A/38V/100%	65/36/30A	5-570A	26 x 20 x 33 (660 x 508 x 838)	258 (120)
			570A/40V/60%	82/48/40A			
	K1518-5	380-415/3/50	400A/36V/100%	36-33A	10-43V		267 (121)
			500A/40V/60%	48-44A			

Inverter Racks

Invetec® V350-PRO Inverter Racks

The V350-PRO rack model power source, available in 4- or 6-pack inverter racks, is specially designed for an industrial setting. This versatile machine is capable of stick, TIG, MIG, flux-cored and arc gouging applications with full remote capabilities.



Invertec V275-S Inverter Racks

This stick and TIG machine delivers truly outstanding E6010 and E7018 performance that enables both whip and drag techniques for a variety of construction and fabrication applications. Available in 8-pack inverter racks.



Processes

V275-S: Stick, TIG, Gouging
 V350-PRO: Stick, TIG, MIG, Flux-Cored, Gouging

Advantage Lincoln

- One easy connection allows power sources to be connected with one primary power drop.
- The power sources are installed in the rack and wired to the main power distribution panel.
- Both the V350-PRO rack model and the V275-S rack model power sources include added weather protection features such as water-tight flexible conduit for input power connections, rubber boots covering the power switch, circuit breaker reset button, and covers for remote connection ports to meet IP23S rating.
- Unique mounting scheme allows for easy servicing of the power sources, yet firmly holds the power sources in place.
- Entire system meets National Electrical Code (NEC) requirements.
- 200 amp, 600 volt, 3-phase main disconnect switch allows all power sources in the rack to be shutoff by turning one switch.
- Individual fuses provide overcurrent protection for each power source.
- Standard length wiring ensures the power sources can be placed in any position on the rack.
- Two overhead lifting eyes, two fork lift slots, and four heavy duty casters provide ease of portability.

Order

- K2198-1 4-pack Inverter Rack with 4 Invertec V350-PRO Factory Rack Power Sources (K1728-11)
- K2198-2 6-pack Inverter Rack with 6 Invertec V350-PRO Factory Rack Power Sources (K1728-11)
- K2199-2 8-pack Inverter Rack with 8 Invertec V275-S Rack Power Sources (K2269-2)

Literature

E5.92

Product Name	Product Number	Rack Input Power(1)	Rated Output Current/Voltage/ Duty Cycle(2)	Rack Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
4-Pack Rack V350-PRO	K2198-1	230/460/575/3/50/60	350A/34V/60%	128/67/57A	5-425A	60.0 x 44.5 x 33.5 (1524 x 1130 x 851)	796 (361)
	6-Pack Rack V350-PRO			K2198-2		171/90/76A	60.0 x 59.0 x 33.5 (1524 x 1499 x 851)
8-Pack Rack V275-S		K2199-2	208/230/460/575/3/60	275A/31V/35%	161/149/77/65	5-275A	60.0 x 59.0 x 33.5 (1524 x 1499 x 851)
	220/380/400/415/440/3/50		250A/30V/35%	149/89/89/83/77			

(1) Fused for 460/575/3/50/60 VAC operation. For 230 or 208 VAC operation, primary fuses must be changed.
 (2) Based on a 10 minute period. Output is for each individual machine.

Multi-Weld System

For On-site Multiple Stick and Wire Welding
 Lincoln's Multi-Weld System offers an entirely new and better way to build large structures. As a primary source of power, the Multi-Source eliminates many of your cable nightmares, by providing a single weld cable that distributes the power. The Multi-Source may be centrally located to feed a few individual Multi-Weld 350's, or as many as 20 or more systems! The Multi-Weld 350 is a 350 amp, DC+, 100% duty cycle welder capable of CV-wire, CC-stick or arc gouging.



Order

- K1735-1 Multi-Weld 350
- K1752-1 Multi-Source
380-415/440-460/550-575/3/50/60

Literature

E5.300

Product Name	Product Number	Input DC Volts	Rated DC+ Output Current/Voltage/ Duty Cycle	Input Current at Rated DC Output (80V DC)	Output Range	Dimensions H x W x L in. (mm)	Net Weight lbs (kg)
Multi-Weld 350	K1735-1	80V DC (50-113 Peak Range)	350A/34V/100% DC+	165A	15-40 Volts 30-350 Amps Max. OCV: 78V	11.6 x 10 x 21.5 (295 x 254 x 546)	59 (27)

Product Name	Product Number	Input Power	Rated DC Output Power/Duty Cycle	Input Voltage /Input Frequency Input Amps @ Rated DC Output	Dimensions H x W x L in. (mm)	Net Weight lbs (kg)	
Multi-Source	K1752-1	380-415/440-460/550-575 3 Phase 50/60 Hz	40 KVA/100% @ 80V DC (max) 36 KVA/100% @ 80V DC (max)	460V/60Hz 98A 415V/50Hz 99A	460V/60Hz 83A 440V/50Hz 79A	575V/60Hz 69A 550V/50Hz 66A	31 x 22 x 40 (787 x 559 x 1016) 992 (450)

Power Arc™ 4000



Output    Input 

Reliable generator and welding power in a single portable unit! The Power Arc 4000 is an excellent AC generator combined with an AC welder for extra utility! 4,000 AC watts allow you to power tools, lights and electrical equipment on the farm, in the yard, or in the field. 125 amps of quality Lincoln stick welding power allows you to weld up to 1/8" diameter stick electrode.

Processes

Stick

Advantage Lincoln

- 4,000 watt AC generator for standby emergency or portable power; circuit breaker protection.
- 125 amp AC stick welder.
- Single dial continuous output current control.

- Compact and portable - can be easily moved by two people.
- One 120V duplex receptacle and one 240V receptacle.
- One gallon fuel tank (Briggs & Stratton®); 1.6 gallons (Honda®).
- Manufacture under a quality system certified to ISO 9001 requirements.
- Two-year Lincoln warranty on welder (engine is warranted separately by the manufacturer).

Recommended General Options

Accessory Kit, Undercarriage

Order

- K1429-6 Briggs & Stratton Intek® (CSA)
- K1429-7 Briggs & Stratton Intek (CSA) (accessories)
- K1429-4 Honda (CSA)

Literature

- E6.20, Honda
- E6.20.1, Briggs & Stratton

Product Name	Rated Output Current/Voltage/ Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
Power Arc 4000	125A AC/20V/30%	70-125A AC 4000 watts	B&S Intek Gas	1	8 @ 3600	21 x 20 x 30 (530 x 508 x 762)	160 (72.6)
			Honda GX270 Gas		9 @ 3600		169 (76.6)

Weldanpower® 125



Output **CC** **DC** **4.5 kW** Input

Great for the first-time buyer with a wide variety of outdoor uses, the Weldanpower 125 combines DC stick welding with a 120/240 VAC generator. 125 amps of DC welding power provides a smoother, more stable arc that can take full advantage of low hydrogen stick electrodes. 4,500 watts of AC generator power gives you the ability to power tools, lights, electric pumps, and keeps your family or business safe in case of an emergency.

Processes

Stick

Advantage Lincoln

- 125 amp DC output for professional welding, especially for low hydrogen electrodes.
- 4,500 watt AC generator for standby emergency or portable power; circuit breaker protection.

- Single dial continuous output current control.
- Compact and portable - can be moved by two people.
- One 120V duplex receptacle and one 240V receptacle.
- 1.6 gallon fuel tank.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Two-year Lincoln warranty on welder (engine is warranted separately by the manufacturer).

Recommended General Options

Accessory Kit, Undercarriage

Order

K1444-1 Briggs & Stratton® Vanguard®

Literature

E6.51

Product Name	Rated Output Current/Voltage/ Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions in. (mm) H x W x D	Net Weight lbs. (kg)
Weldanpower 125	125A DC/25V/30%	50-125A DC 4500 watts	B&S Vanguard Gas	1	9 @ 3600	21 x 20 x 30 (530 x 508 x 762)	190 (86)

Ranger™ 10,000 **NEW!**



Output **CC CV** **AC DC** **10 P kW** Input **G**

The Ranger 10,000 is the right choice for a general contractor, maintenance team, farmer or home owner looking for a sizable 10,000 watts peak (9,000 continuous) for lights, tools and emergency standby power, mated with an AC/DC stick welder. In addition, the Ranger 10,000 extends your welding capability with basic TIG, MIG and Flux-Cored welding.

Processes

Stick, TIG, MIG, Flux-Cored, Gouging

Advantage Lincoln

- 10,000 watts peak (9,000 watts continuous) AC generator power for high capacity needs such as a back-up generator, or powering Pro-Cut® plasma cutters and Invertec® inverter welders, as well as lights, grinders and other power tools.
- Smooth AC/DC welding output for a broad range of stick electrodes, such as Lincoln Excalibur™ 7018 (AWS E7018) and Fleetweld® 5P+ (AWS E6010). Also capable of MIG, Flux-Cored, and basic TIG welding.
- Rated 225 amps/25 volts for AC, 210 amps/25 volts for DC and 200 amps/20 volts for CV. All rated outputs at 100% duty cycle 104°F (40°C).
- Simultaneous welding and auxiliary power loads – For example, at 145 amps of welding output, you can still

power up to 3,950 watts for lights, grinders and other power tools.

- Rugged Reliability – Rangers have been subjected to an extensive testing program to ensure reliable operation in a wide variety of environmental conditions.
- Two engine choices – Kohler® and Honda® gasoline. Both are 2 cylinder 4 cycle OHV (overhead valve) air-cooled.
- Easy to Maintain – Engines require an oil change only every 100 hours and every 200 hours for the oil filter.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer).

Recommended General Options

Power Plug Kit (20 amp), Power Plug Kit (15 amp), Full-KVA Power Plug, GFCI Receptacle Kit (20 amp), Spark Arrester Kit, Canvas Cover, Hand Moving Undercarriage, Four Wheeled Undercarriage, All-Terrain Undercarriage, Factory Undercarriage, Small Two Wheel Welder Trailer

Recommended Stick Options

Stick Accessory Kit

Recommended TIG Options

Pro-Torch® PTA-26V TIG Torch, Magnum® Parts Kit, TIG Module, Control Cable, Arc Start Switch, Docking Kit, Contactor Kit, Control Cable Extension

Recommended Wire Feeder Options

LN-25 Wire Feeder, LN-15 Across-The-Arc Wire Feeder, Drive Roll Kit, Magnum 350 Innershield® Gun, Gun Receiver Bushing, Magnum 200 MIG Gun, Magnum Gun Connector Kit

Recommended Plasma Cutting Options

Pro-Cut 55, Full KVA Adapter Kit

Order

- K1419-4 Ranger 10,000 (Kohler® OHV Command CH20S Engine)
- K2160-3 Ranger 10,000 (Honda® OHV GX620K1 Engine)

Literature

E6.92

Product Name	Rated Output Current/Voltage/Duty Cycle	Output Range	Engine Model	No. of Cyl.	HP @ Speed (rpm)	Dimensions H x W x D inches (mm)	Net Weight lbs (kg)
Ranger 10,000	225A AC CC/25V/100% 210A DC CC/25V/100% 200A DC CV/20V/100%	50-225A AC 50-210A DC 15-25V CV 10,000 watts peak 9,000 watts continuous	Kohler OHV Command® CH20S	2	20 @ 3600	30.3 x 19.1 x 42.3 (770 x 485 x 1074)	502 (228)
			Honda OHV GX620K1				505 (229)

Ranger™ 3 Phase **NEW!**



Output CC CV AC DC 11.5 kW **Input** G

Select the Ranger 3 Phase for portable auxiliary power demands on the farm, ranch or construction sites. This rugged Ranger delivers up to 11,500 watts peak three phase 480V power for farm irrigation circles, pumps and other power-hungry applications, or 10,500 watts peak single phase power for lights, grinders and farm, shop or home auxiliary power. But that's not all - use the Ranger 3 Phase for AC or DC stick and arc gouging. Also capable of basic TIG welding (add TIG module for AC TIG), as well as MIG and flux-cored welding. The low maintenance 20 horsepower Kohler® engine delivers dependable starting, great fuel efficiency and years of reliable use.

Processes

Stick, TIG MIG, Flux-Cored, Gouging

Advantage Lincoln

- 480V 3-phase 11,500 watts peak (10,500 continuous) AC generator power for irrigation circles, farm pumps and other applications where portable 3-phase power is needed.
- 10,500 watts peak (9,500 watts continuous) 1-phase AC generator power for high capacity needs such as a back-up generator, or powering Pro-Cut® plasma cutters and Invertec® inverter welders, as well as lights, grinders and other power tools.
- Smooth AC/DC welding output for a broad range of stick

electrodes. Unit comes with a sample pack of Lincoln Excalibur™ 7018 (AWS E7018) electrode. Also capable of MIG, flux-cored, and basic TIG welding.

- Rated 225 amps/25 volts for AC, 210 amps/25 volts for DC and 200 amps/20 volts for CV. All rated outputs at 100% duty cycle 104°F (40°C).
- Simultaneous welding and auxiliary power loads – for example, at 145 amps of welding output, you can still power up to 3,950 watts for lights, grinders and other power tools.
- Kohler® 20 HP gasoline engine. 2 cylinder 4 cycle OHV (overhead valve) air-cooled.
- Easy to maintain – engine requires an oil change only every 100 hours and every 200 hours for the oil filter.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer).

Recommended General Options

Power Plug Kit (20 amp), Power Plug Kit (15 amp), Full-KVA Power Plug, GFCI Receptacle Kit (20 amp), Spark Arrester Kit, Canvas Cover, Hand Moving Undercarriage, Four Wheeled Undercarriage, All-Terrain Undercarriage, Factory Undercarriage, Small Two Wheel Welder Trailer

Recommended Stick Options

Stick Accessory Kit

Recommended TIG Options

Pro-Torch® PTA-26V TIG Torch, Magnum® Parts Kit, TIG Module, Control Cable, Arc Start Switch, Docking Kit, Contactor Kit, Control Cable Extension

Recommended Wire Feeder Options

LN-25 Wire Feeder, LN-15 Across-The-Arc Wire Feeder, Drive Roll Kit, Magnum 350 Innershield® Gun, Gun Receiver Bushing, Magnum 300 MIG Gun, Magnum MIG Gun Connector Kit

Recommended Plasma Cutting Options

Pro-Cut 55, Full-KVA Adapter Kit

Order

K2337-1 Ranger 3 Phase (Kohler® OHV Command® CH20S Engine)

Literature

E6.94

Product Name	Rated Output Current/Voltage/Duty Cycle	Output Range	Engine Model	No. of Cyl.	HP @ Speed (rpm)	Dimensions H x W x D inches (mm)	Net Weight lbs (kg)
Ranger 3 Phase	225A AC CC/25V/100% 210A DC CC/25V/100% 200A DC CV/20V/100%	50-225A AC 50-210A DC 15-25V CV 1-Phase 10,500 watts peak 9,500 watts continuous 3-Phase 11,500 watts peak 10,500 watts continuous	Kohler OHV Command® CH20S	2	20 @ 3600	30.3 x 19.1 x 42.3 (770 x 485 x 1074)	538 (244)

Ranger™ 250

Ready For A Workout!



"We feel the Lincoln Electric Ranger 250 is currently the best machine on the market to meet our needs. It delivers a crisp arc and a consistent weld pattern. In the past, we have used Miller® Bobcats® and Thermadyne® Predators®, but Lincoln's Ranger 250 is superior in terms of mechanical longevity, ruggedness and dependability."

*John Caffrey
Engineering Manager
Dryer Group, ICM*

LINCOLN®
ELECTRIC

THE WELDING EXPERTS

www.lincolnelectric.com

Ranger™ 250



Output **CC CV** **DC** **9.7 kW** Input **G**

The Ranger 250 is ready for a workout – all day, everyday! Intended for contractors, construction and maintenance applications, this tough Lincoln gasoline-driven welder/generator delivers 250 amps for welding at 100% duty cycle. The Ranger 250 is recommended for stick welding, including a separate, dedicated downhill pipe mode, as well as Touch-Start™ TIG, flux-cored and MIG wire welding and arc gouging. Lincoln Chopper Technology provides easy starts, an extremely smooth arc, low spatter and outstanding bead appearance. The sleek, enclosed case lowers noise and protects critical engine components. Hot looks, hot features, hot performance – That's the Ranger 250!

Processes

Stick, TIG, MIG, Flux-Cored, Gouging

Advantage Lincoln

- Lincoln's Chopper Technology provides for easy starts, a smooth arc, low spatter and excellent bead appearance.
- A powerful 250 amp DC CC/CV gasoline engine driven welder. All rated outputs at 100% duty cycle 104°F (40°C).
- Excellent DC multi-process welding for general purpose stick, downhill pipe mode for stick welding, TIG, cored-

wire, MIG (CO₂ and blended gas) and arc gouging with carbons up to 3/16" in diameter.

- Enhanced Downhill Pipe welding mode for faster travel speeds, especially on fill passes. Arc control adjustment for a softer, buttery arc, or a more forceful, digging arc.
- Touch-Start™ TIG mode has a voltage sensing output that stops the arc when the torch is lifted at end of weld for increased weld quality.
- Designed especially for contractors, maintenance and repair, owner-operators, and welding professionals who demand a superior welding arc.
- Three-year Lincoln warranty on welder (engine is warranted separately by the engine manufacturer).

Recommended General Options

Power Plug Kit (20 amp), Power Plug Kit (15 amp), Full KVA Power Plug, GFCI Receptacle Kit, Spark Arrester Kit, Canvas Cover, All Terrain Undercarriage, Factory Undercarriage, Gas Cylinder Holder, Cable Carrier Kit, Roll Cage, Small Two Wheel Welder Trailer

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

Pro-Torch™ TIG Torch, Hand Amptrol®, Foot Amptrol, Magnum® Parts Kit, Square Wave TIG 175 PRO, Invertec® V205-T AC/DC One-Pak™ Package, Full-KVA Adapter Kit

Recommended Wire Feeder Options

LN-25 Wire Feeder, LN-15 Across-The-Arc Wire Feeder, Drive Roll Kit, Remote Voltage Control, Magnum Innershield® Gun, Gun Receiver Bushing, Magnum MIG Gun, Magnum Gun Connector Kit, Magnum SG Spool Gun, SG Control Module, Input Cable

Recommended Plasma Cutting Options

Pro-Cut® 55, Full-KVA Adapter Kit

Order

- K1725-6 Ranger 250 (Onan® Engine)
- K1725-7 Ranger 250 (Kohler® Engine)

Literature

E6.103

Product Name	Rated Output Current/Voltage/ Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
Ranger 250	250A DC CC/28V/100% 250A DC CV/28V/100% 275A DC CV/27V/60%	20-250A DC 40-250A Pipe 20-250A TIG	Onan® OHV Performer P220 Gas	2	20.5 @ 3600	36.2 x 21.5 x 42.3 (920 x 546 x 1073)	518 (235)
		14-28V CV 9000 watts peak 8500 watts continuous	Kohler® OHV Command® CH20S Gas		20 @ 3600		500 (227)

Ranger™ 250 LPG **NEW!**



Output **CC CV** **DC** **9.7 kW** Input **LPG**

The Ranger 250 LPG is ready for a workout – all day, everyday! Intended for applications, where gasoline and diesel emissions are unacceptable, this tough Lincoln LPG-fuel welder/generator delivers 250 amps for welding at 100% duty cycle. The Ranger 250 LPG is recommended for stick welding, including a separate, dedicated downhill pipe mode, as well as Touch-Start™ TIG, flux-cored and MIG wire welding and arc gouging. Lincoln's Chopper Technology provides easy starts, an extremely smooth arc, low spatter and outstanding bead appearance. The sleek, enclosed case lowers noise and protects critical engine components. Hot looks, hot features, hot performance – That's the Ranger 250 LPG!

Processes

Stick, TIG, MIG, Flux-Cored, Gouging

Advantage Lincoln

- Lincoln's Chopper Technology provides easy starts, a smooth arc, low spatter and excellent bead appearance.
- A powerful 250 amp DC CC/CV LPG engine driven welder. All rated outputs at 100% duty cycle 104°F (40°C).
- Excellent DC multi-process welding for general purpose stick, downhill pipe mode for stick welding, TIG, cored-wire, MIG (CO₂ and blended gas) and arc gouging with carbons up to 3/16" in diameter.
- Enhanced Downhill Pipe welding mode for fast travel speeds, especially on fill passes. Arc control adjustment

for a softer, buttery arc, or a more forceful, digging arc.

- Touch-Start™ TIG mode has a voltage sensing output that stops the arc when the torch is lifted at end of weld for increased weld quality.
- Designed especially for contractors, maintenance and repair, owner-operators, and welding professionals who demand a superior welding arc.
- A portable powerhouse - delivers 9,000 peak (8,000 continuous) watts of 120V/240AC generator power. Enough power to run lights, tools, pump and weld all at the same time!
- Fully enclosed case for equipment protection and lower noise.
- Take the hassle out of ordering - Order a One-Pak™ welding package (some assembly required).
- Three-year Lincoln warranty on welder (engine is warranted separately by the engine manufacturer).

Recommended General Options

Power Plug Kit (20 amp), Power Plug Kit (15 amp), Full KVA Power Plug, GFCI Receptacle Kit, Spark Arrester Kit, Canvas Cover, Factory Undercarriage, Gas Cylinder Holder, LPG Tank Holder Kit, Cable Carrier Kit

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

TIG Torch, Hand Amptrol®, Foot Amptrol, Magnum® Parts Kit, Square Wave TIG 175 PRO, Invertec® V205-T AC/DC One-Pak™ Package, Full-KVA Adapter Kit

Recommended Wire Feeder Options

LN-25 Wire Feeder, LN-15 Across-The-Arc Wire Feeder, Drive Roll Kit, Remote Voltage Control, Magnum Innershield® Gun, Gun Receiver Bushing, Magnum MIG Gun, Magnum Gun Connector Kit, Magnum SG Spool Gun, SG Control Module, Input Cable

Recommended Plasma Cutting Options

Pro-Cut® 55, Full-KVA Adapter Kit

Order

- K2336-1 Ranger 250 LPG (Kohler OHV LPG Engine)
- K2371-1 Ranger 250 LPG One-Pak™ Pkg.

Literature


E6.104

Product Name	Rated Output Current/Voltage/Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
Ranger 250 LPG	250A DC CC/28V/100% 250A DC CV/28V/100% 275A DC CV/27V/60%	20-250A DC 40-250A Pipe 20-250A TIG 14-28V CV 9000 watts peak 8000 watts continuous	Kohler® OHV Command® CH20S LPG	2	20 @ 3600	36.2 x 21.5 x 42.3 (920 x 546 x 1073)	482 (218)

Ranger™ 305G




Output     Input 

The Ranger 305G is a powerful stick, TIG, wire and pipe welding power source that is ready for all day, everyday performance. Rugged and dependable, the Ranger 305G is built with a totally enclosed case for maximum protection; Lincoln  Chopper Technology™ for the best arc in the business; and a 12 gallon fuel tank that will last you through the entire day. Lincoln's Ranger 305G ...it's ready for a workout!

Processes

Stick, TIG, MIG, Flux-Cored, Gouging

Advantage Lincoln

- Lincoln  Chopper Technology for the best arc in the business.
- For DC stick, TIG, flux-cored and MIG processes up to 300 amps @100% duty cycle.
- Enhanced Downhill Pipe welding mode. Faster travel speeds, especially on fill passes. Arc control adjustment for softer or more forceful, digging arc.
- Single full range output control with digital weld output meters.

- Quietest product in its class - listen for yourself!
- Take the hassle out of ordering - Order a One-Pak™ welding package (some assembly required).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer.)

Recommended General Options

Power Plug Kit (20 amp), Power Plug Kit (15 amp), Full KVA Power Plug, GFCI Receptacle Kit, Spark Arrester Kit, Canvas Cover, All Terrain Undercarriage, Factory Undercarriage, Gas Cylinder Holder, Cable Carrier Kit, Roll Cage, Small Two Wheel Welder Trailer

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

Pro-Torch® TIG Torch, Hand Amptrol®, Foot Amptrol, Magnum® Parts Kit, Square Wave TIG 175 PRO, Invertec® V205-T AC/DC One-Pak™ Package, Full-KVA Adapter Kit

Recommended Wire Feeder Options

LN-25 Wire Feeder, Drive Roll Kit, Remote Voltage Control, Magnum 350 Innershield® Gun, Magnum 300 MIG Gun, Magnum Gun Connector Kit, Magnum SG Spool Gun, SG Control Module, Input Cable for SG Control Module

Recommended Plasma Cutting Options

Pro-Cut® 55, Full-KVA Adapter Kit

Order

- K1726-2 Ranger 305G Kohler® (CSA)
- K2353-1 Ranger 305G One-Pak Pkg.

Literature

E6.117

Product Name	Rated Output Current/Voltage/ Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Ranger 305G	305A DC CC/29V/100% 300A DC CV/29V/100%	20-305A DC 40-300A Pipe 20-250A TIG 14-29V CV 10,000 watts peak 9500 watts continuous	Kohler Command® CH22 Gas	2	22 @ 3600	36.2 x 21.5 x 42.3 (920 x 546 x 1073)	510 (231)

Ranger™ 305D



Output **CC** **CV** **DC** **10⁺** **kW** Input **D**

The Ranger 305D is a powerful stick, TIG, and wire welding engine driven welder that is ready for all day, everyday performance. Rugged and dependable, the Ranger 305D is built with a totally enclosed case for maximum protection; Lincoln's *SC* Chopper Technology™ for an arc operators appreciate; and a 12 gallon fuel tank that will last you through the entire day. Lincoln's Ranger 305D ... it's ready for a workout.

Processes

Stick, TIG, MIG, Flux-Cored, Gouging

Advantage Lincoln

- Weld with Lincoln's *SC* Chopper Technology. Easy starts, smooth arc, low spatter and excellent bead appearance.
- A powerful 300 amp DC multi-process welder powered by an extremely reliable water-cooled Kubota® diesel engine. All outputs rated at 100% duty cycle 104°F (40°C).
- Simple to Operate - Select one of four Process Modes, including CC-Stick, Downhill Pipe (for stick), Touch-Start™ TIG or CV Wire, and then dial in the desired output.
- CC-Stick mode is optimized for general purpose stick using E7018 low hydrogen electrode.
- Downhill pipe mode with active arc force control provides fast travel speeds, especially on fill passes.
- Arc force control provides a soft or more forceful digging arc in CC-stick or downhill pipe mode and

inductance/pinch control in CV wire mode.

- Standard Touch-Start™ DC TIG welding, not scratch start, for easy arc starting that avoids tungsten contamination and the use of high-frequency.
- Digital meters for amps and volts output make it easy to precisely set your procedures. Fuel gauge, engine protection light for oil pressure and engine temperature keep you on top of monitoring engine performance.
- A portable powerhouse - delivers 10,000 peak (9,500 continuous) watts of 120V/240V AC generator power. Enough power to run lights, tools, or pumps and weld all at the same time!
- Fully enclosed case for equipment protection and low noise (104.2 dB).
- Take the hassle out of ordering - Order a One-Pak™ welding package (some assembly required).
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer).

Recommended General Options

Power Plug Kit (20 amp), Power Plug Kit (15 amp), Full-KVA Power Plug, Spark Arrester Kit, Roll Cage, Cold Weather Operation Kit, Small Two Wheel Welder Trailer

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

Pro-Torch® TIG Torch, Hand Amptrol®, Foot Amptrol, Magnum® Parts Kit, Square Wave TIG 175 PRO, Invertec® V205-T AC/DC One-Pak™ Package, Full-KVA Adapter Kit

Recommended Wire Feeder Options

LN-25 Wire Feeder, Drive Roll Kit, Remote Voltage Control, Magnum 350 Innershield® Gun, Magnum 300 MIG Gun, Magnum Gun Connector Kit, Magnum SG Spool Gun, SG Control Module, Input Cable for SG Control Module

Recommended Plasma Cutting Options

Pro-Cut® 55, Full-KVA Adapter Kit

Order

- K1727-2 Ranger 305D Kubota® Engine (CSA)
- K2352-1 Ranger 305D One-Pak Pkg.

Literature

E6.118

Product Name	Rated Output Current/Voltage/ Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Ranger 305D	305A DC CC/29V/100% 300A DC CV/29V/60%	20-305A DC 40-300A Pipe 20-250A TIG 14-29V CV 10,000 watts peak 9,500 watts continuous	Kubota D722 Diesel	3	18.8 @ 3600	35.8 x 21.5 x 52.3 (909 x 546 x 1327)	698 (317)

SAE-400



Output **CC** **CV**⁽¹⁾ **DC** **3 kW** Input **D**

For demanding jobs that call for high amperage capabilities, the SAE-400 offers 400 amps for DC stick welding and 3,000 watts of AC power. Designed especially for pipeliners and field welders, the SAE-400 is powered by a heavy duty, industrial diesel engine, which offers low maintenance and long life for hassle free operation. Add CV wire welding with the optional CV Adapter.

Processes

Stick, TIG, Flux-Cored(1), Gouging

Advantage Lincoln

- Primarily for stick welding.
- Heavy duty time-tested welder.
- Dual continuous control of both current and open circuit voltage lets the operator select the arc characteristics needed for each job.
- Low engine speeds and reserve horsepower provide long life with minimum maintenance.

- Take the hassle out of ordering - Order a One-Pak™ welding package (some assembly required).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer.)

Recommended General Options

Power Plug Kit, GFCI Kit, Spark Arrestor Kit, Oil Drain Kit, Severe Duty Sheet Metal Kit, Large Welder Trailer, Four-Wheeled Yard Trailer

Recommended Stick Options

Accessory Kit

Recommended TIG Options

TIG Module, PTA-26V Pro-Torch™ TIG Torch, Magnum® TIG Torch Parts Kit, Control Cable, Arc Start Switch, Contactor Kit, Control Cable Extension, Water Valve Kit

Recommended Wire Feeder Options

CV Adapter, LN-25 Wire Feeder, Drive Roll Kit, Magnum 350 Innershield Gun, Magnum 200 MIG Gun, Magnum Gun Connector Kit, LN-23P Wire Feeder, LN-23P Adapter Kit, Magnum 250 Innershield Gun, 62° Gun Tube

Order

- K1278-5 SAE-400 Perkins® Diesel (CSA)
- K1866-1 SAE-400 One-Pak Pkg. w/ Ball Hitch
- K1866-2 SAE-400 One-Pak Pkg. w/ Lunette Eye Hitch

Literature

E6.180

Product Name	Rated Output Current/Voltage/ Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
SAE-400	400A DC/40V/60%	80-575A DC 3000 watts	Perkins 1004.42 Diesel	4	71 @ 1725	50 x 28 x 83 (1270 x 711 x 2109)	2125 (964)

(1) With CV Adapter.

SAE-400 Weld'N Air



Output **CC** **CV**⁽¹⁾ **DC** **3 kW** Input **D**

When your application demands high amperage and versatility, the SAE-400 Weld'N Air is your best option. Rugged arc welding is combined with a reciprocating compressor for extra performance features. Welding and gouging are both specialties of this machine! The SAE-400 Weld 'N Air offers 400 amps of DC for stick welding plus compressed air for arc gouging and power for tools and lights. CV wire welding is an optional feature with the field installed CV Adapter.

Processes

Stick, TIG, Flux-Cored(1), Gouging

Advantage Lincoln

- Excellent for heavy duty stick welding and arc gouging.
- 400 amp DC engine driven welder.
- 35 CFM @100 PSI heavy duty belt-driven compressor. Cast iron sleeves, pressure lubricated oil system and magnetic clutch.

- All compressor controls located on front panel for easy access.
- Perkins 1004.42 water-cooled industrial diesel engine.
- Optional CV wire welding with CV Adapter.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer.)

Recommended General Options

Power Plug Kit, GFCI Kit, Four-Wheeled Yard Trailer, Two-Wheel Large Welder Trailer

Recommended Stick Options

Accessory Kit

Recommended TIG Options

TIG Module, PTA-26V Pro-Torch™ TIG Torch, Magnum® TIG Torch Parts Kit, Control Cable, Arc Start Switch, Contactor Kit, Control Cable Extension, Water Valve Kit

Recommended Wire Feeder Options

CV Adapter, LN-25 Wire Feeder, Drive Roll Kit, Magnum 350 Innershield Gun, Magnum 200 MIG Gun, Magnum Gun Connector Kit, LN-23P Wire Feeder, LN-23P Adapter Kit, Magnum 250 Innershield Gun, 62° Gun Tube

Order

K1506-1 SAE-400 Weld'N Air Perkins® Diesel (CSA)

Literature

E6.185

Product Name	Rated Output Current/Voltage/ Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
SAE-400 Weld'N Air	400A DC/40V/60%	80-575A DC 3000 watts	Perkins 1004.42 Diesel	4	71 @ 1725	50 x 28 x 83 (1270 x 711 x 2109)	2377 (1078)

(1) With CV Adapter.

SAE-400 Severe Duty



Output    Input 

For off-shore and other corrosive environments the SAE-400 Severe Duty (The "Silver Bullet") is the preferred choice with its great arc performance, design simplicity, reliability and ruggedness! Utilizing customer experience and input from job-site use, it is an upgraded version of the workhorse SAE-400 that you can count on!

Processes

Stick, Gouging

Advantage Lincoln

- Stainless steel and galvanized case/internal parts.
- Stainless brushholder assemblies and all copper coils.
- Coated radiator, fuel tank, laminations and wire connections.
- Sealed switches.

- Engine air shutoff, water separator, spark arrester and oil drain system.
- Excellent for heavy-duty stick welding and arc gouging.
- Dual continuous controls of both current and open circuit voltage lets operator select the arc characteristics needed for each job.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer.)

Recommended General Options

Power Plug Kit, GFCI Kit, Four-Wheeled Yard Trailer, Two-Wheel Large Welder Trailer

Recommended Stick Options

Accessory Kit

Order

K1278-6 SAE-400 Severe Duty Perkins® Diesel (CSA)

Literature

E6.180.1

Product Name	Rated Output Current/Voltage/Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
SAE-400 Severe Duty	400A DC/40V/60%	80-575A DC 3000 watts	Perkins 1004.42 Diesel	4	71 @ 1725	50 x 28 x 83 (1270 x 711 x 2109)	2178 (988)

Pipeliner™ 200G



Output **CC** **CV**⁽¹⁾ **DC** **1.75** kW Input **G**

Pipeliners want a machine that will perform superbly with an exceptional arc – a classic arc. All copper windings, a DC exciter, a four cylinder water-cooled General Motors® engine – everything discriminating pipeline operators prefer to help them deliver code quality pipe welds. That's why we know pipeline welders will weld confidently with the Pipeliner 200G, Lincoln's updated Classic I welder made especially for classic stick pipe welding.

Processes

Stick, MIG (1), Flux-Cored(1), Gouging,

Advantage Lincoln

- Pure DC generator welding arc is preferred by pipeliners and contractors for precise code consistency.
- DC exciter for supplying pure DC current to the welding generator - as requested by the most discriminating operators.
- All copper windings enhance arc stability for the best arc in the industry!
- 200 amps DC @ 60% duty cycle. Weld up to 7/32" (5.6mm) low hydrogen electrode. Gouge with up to 5/32" (4.0mm) carbons.

- Five current ranges with overlap for stick pipe welding and other processes where slope control is desired. Fine-tuning within each range.
- Local/Remote switch and receptacle are factory installed.
- Quiet, smooth-running, 4-cylinder, water-cooled General Motors industrial gasoline engine.
- 100 RPM high idle (OCV) adjustment range - enhanced fine tuning for performance on pipe.
- Fuel injection for more efficient fuel consumption.
- Large displacement engine for reserve power.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer.)

Recommended General Options

Medium Welder Trailer, Oil Drain Kit

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended Wire Feeder Options

Wire Feed Module, LN-25 Wire Feeder, Drive Roll Kit, Remote Voltage Control Kit, Magnum® 350 Innershield Welding Gun, Magnum 200 MIG Gun, Magnum Gun Connector Kit

Order

K6090-7 Pipeliner 200G General Motors (Gasoline)

Literature

E6.131

Product Name	Rated Output Current/Voltage/ Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
Pipeliner 200G	200A DC/40V/60%	40-300A DC 1750 watts DC Auxiliary Power	General Motors 3.0 L L4 Gasoline	4	46.0 @ 1600	45.5 x 24 x 68.1 (1156 x 610 x 1731)	1295 (587)

(1) With Wire Feed Module.

Pipeliner™ 200D



Output **CC** **CV**⁽¹⁾ **DC** **1.75** kW Input **D**

The Pipeliner 200D, our 200-amp diesel welder, continues the long established reputation of Lincoln's 200 amp pure DC generator welder for the cross-country pipeline welding industry. This is the diesel version of the Pipeliner 200G gasoline engine driven product, and is similar to the older SA-200 and Classic I gasoline engine driven products manufactured for years, many of which are still in use today. The Pipeliner 200D continues to use a DC exciter, as requested by the most discriminating operators. The Pipeliner 200D runs at a speed slower than other more common 1800 RPM units, making this industrial product unique and especially suited to the needs of cross-country pipeline operators.

Processes

Stick, MIG(1), Flux-Cored(1), Gouging

Advantage Lincoln

- 200 amps DC @ 60% duty cycle. Weld up to 7/32" low hydrogen electrode.
- Pure DC generator welding arc is preferred by pipeliners and contractors for precise code consistency.

- DC exciter for supplying pure DC current to the welding generator – as requested by the most discriminating operators.
- All copper windings enhance arc stability for the best arc in the industry!
- Quiet, smooth-running, 4-cylinder, water-cooled Perkins industrial diesel engine.
- Five current ranges with overlap for stick pipe welding and other processes where slope control is desired. Fine-tuning within each range.
- Local/Remote switch and receptacle are factory installed.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer.)

Recommended General Options

Spark Arrester, Medium Welder Trailer, Oil Drain Kit

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended Wire Feeder Options

Wire Feed Module, LN-25 Wire Feeder, Drive Roll Kit, Remote Voltage Control Kit, Magnum® 350 Innershield Welding Gun, Magnum 200 MIG Gun, Magnum Gun Connector Kit

Order

K6090-9 Pipeliner 200D Perkins Diesel (CSA)

Literature

E6.132

Product Name	Rated Output Current/Voltage/Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
Pipeliner 200D	200A DC/40V/60%	40-300 DC 1750 watts DC Auxiliary Power	Perkins 104.22	4	28.2 @ 1600	45.5 x 24 x 66.5 (1156 x 610 x 1689)	1318 (598)

(1) With Wire Feed Module.

Classic® II



Output **CC** **CV**⁽¹⁾ **DC** **3** kW Input **D** 

The Classic® II is excellent for pipe welding or for use on the construction site or repair site as a general purpose, 250 amp industrial stick welder. The pure DC weld generator features all copper windings with outstanding welding characteristics that are valued by pipeline welding operators. The Deutz F3L-1011F 3-cylinder, oil-cooled, industrial diesel engine provides low maintenance and fuel-efficient operation. The Classic II utilizes a compact base design for sideways fit in a full-sized pickup truck. CV wire welding is an optional feature with a field installed Wire Feed Module.

Processes

Stick, TIG, MIG(1), Flux-Cored(1), Gouging

Advantage Lincoln

- 250 amps @ 60% duty cycle. Welds with up to 3/16" low hydrogen electrodes.
- 3,000 total watts of AC power from either 115V or 230V duplex receptacles for power tools and lights.
- DC generator welding arc is frequently specified by pipeline operators for precise code consistency.
- All copper windings enhance arc stability for the arc preferred by pipeliners and contractors.

- Five current ranges with overlap for stick pipe welding and other processes where slope control is desired. Fine tuning within each range.
- Take the hassle out of ordering - Order a One-Pak™ welding package (some assembly required).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer.)

Recommended General Options

Power Plug Kit, GFCI Receptacle Kit, Ether Start Kit, Spark Arrester Kit, Medium Welder Trailer, Oil Drain Kit

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

TIG Module, PTA-26V Pro-Torch™ TIG Torch, Magnum® TIG Torch Parts Kit, Control Cable, Arc Start Switch, Contactor Kit, Control Cable Extension, Water Valve Kit

Recommended Wire Feeder Options

Wire Feed Module, LN-25 Wire Feeder, Drive Roll Kit, Remote Voltage Control Kit for LN-25, Magnum 350 Innershield Gun, Magnum 200 MIG Gun, Magnum Gun Connector Kit, LN-23P Wire Feeder, LN-23P Adapter Kit, Magnum 250 Innershield Gun, 62° Gun Tube, Magnum Spool Gun, SG Control Module, Spool Gun Input Cable, 14-Pin Extension Control Cable

Order

- K1406-4 Classic II Deutz Diesel
- K1865-1 Classic II One-Pak Pkg. w/ Ball Hitch
- K1865-2 Classic II One-Pak Pkg. w/ Lunette Eye Hitch

Literature

E6.140

Product Name	Rated Output Current/Voltage/ Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Classic II	200A DC/40V/100% 250A DC/40V/60% 300A DC/32V/40%	40-325A DC 3000 watts AC	Deutz F3L-1011F Diesel	3	28.5 @ 1700	42.0 x 24 x 60 (1067 x 610 x 1524)	1430 (649)

(1) With Wire Feed Module.

Classic[®] 300G[®]



Output **CC** **CV**⁽¹⁾ **DC** **3** kW Input **G**

Some construction crews and pipeliners just prefer to work with a gasoline engine – it's easier to start in cold weather. So, when you need up to 350 amps for larger diameter electrodes and prefer the traditional smooth, high-performance arc that Lincoln copper-wound pure DC generator welders produce, consider asking for the Classic 300G welder made especially for demands like this!

Processes

Stick, TIG, MIG(1), Flux-Cored(1), Gouging

Advantage Lincoln

- 300 amps @ 60% duty cycle. Welds up to 7/32" low hydrogen electrode.
- 3000 watts of AC auxiliary power.
- Pure DC generator welding arc is preferred by pipeliners and contractors for precise code consistency!
- All copper windings enhance arc stability for that really smooth high performance arc.
- Five current ranges with overlap for stick pipe welding and other processes where slope control is desired. Fine-tuning within each range.

- 100 RPM high idle (OCV) adjustment – enhanced fine tuning for performance on pipe!
- Quiet, smooth-running, 4-cylinder, water-cooled General Motors[®] industrial gasoline engine.
- Large displacement engine for reserve power.
- Fuel injection for more efficient fuel consumption.
- Local/Remote switch and receptacle are factory installed.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer.)

Recommended General Options

Power Plug Kit, GFCI Receptacle Kit, Medium Welder Trailer, Oil Drain Kit

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

TIG Module, PTA-26V Pro-Torch™ TIG Torch, Magnum[®] TIG Torch Parts Kit, Control Cable, Arc Start Switch, Contactor Kit, Control Cable Extension, Water Valve Kit

Recommended Wire Feeder Options

Wire Feed Module, LN-25 Wire Feeder, Drive Roll Kit, Remote Voltage Control Kit for LN-25, Magnum 350 Innershield Gun, Magnum 200 MIG Gun, Magnum Gun Connector Kit, LN-23P Wire Feeder, LN-23P Adapter Kit, Magnum 250 Innershield Gun, 62° Gun Tube, Magnum Spool Gun, SG Control Module, Spool Gun Input Cable, 14-Pin Extension Control Cable

Order

K1754-1 Classic 300G GM (Gasoline) (CSA)

Literature

E6.156

Product Name	Rated Output Current/Voltage/ Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Classic 300G	250A DC/30V/100% 300A DC/32V/60%	40-350A DC 3000 watts	General Motors 3.0 L4 Gasoline	4	53.0 @ 1800	45.5 x 24 x 66.9 (1156 x 610 x 1700)	1330 (603)

(1) With Wire Feed Module.

Classic[®] 300D[®]



Output **CC** **CV**⁽¹⁾ **DC** **3 kW** Input **D**

This addition to the Classic line features a 4-cylinder Perkins diesel engine. Like all other Classics, the Classic 300D is a pure DC generator arc welder that is great for pipeliners and contractors. The unit offers 300 amps with five current ranges and fine control in each range. In addition to its welding capabilities, the 300D generates 3,000 watts of AC auxiliary power. Operators can add versatility with a Wire Feed Module.

Processes

Stick, TIG, MIG(1), Flux-Cored(1), Gouging

Advantage Lincoln

- Primarily for stick welding.
- Designed for pipe welding and applications that are critical to arc performance.
- Proven generators with pure DC welding output.
- All copper windings.
- Take the hassle out of ordering - Order a Ready-Pak™ pre-assembled welding package or One-Pak™ welding package (some assembly required).

- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer.)

Recommended General Options

Power Plug Kit, GFCI Kit, Wire Feed Module, Remote Output Control, Accessory Kit, Medium Welder Trailer

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

TIG Module, PTA-26V Pro-Torch™ TIG Torch, Magnum® TIG Torch Parts Kit, Control Cable, Arc Start Switch, Contactor Kit, Control Cable Extension, Water Valve Kit

Recommended Wire Feeder Options

Wire Feed Module, LN-25 Wire Feeder, Drive Roll Kit, Remote Voltage Control Kit for LN-25, Magnum 350 Innershield Gun, Magnum 200 MIG Gun, Magnum Gun Connector Kit, LN-23P Wire Feeder, LN-23P Adapter Kit, Magnum 250 Innershield Gun, 62° Gun Tube, Magnum Spool Gun, SG Control Module, Spool Gun Input Cable, 14-Pin Extension Control Cable

Order

- K1643-1 Classic 300D Perkins Diesel (CSA)
- K1643-2 Classic 300D Perkins Diesel (CSA) (w/ Wire Feed Module)
- K1864-1 Classic 300D One-Pak Pkg. w/ Ball Hitch
- K1864-2 Classic 300D One-Pak Pkg. w/ Lunette Eye Hitch
- K2242-1 Classic 300D Ready-Pak Pkg. w/ Ball Hitch
- K2242-2 Classic 300D Ready-Pak Pkg. w/ Lunette Eye Hitch

Literature

E6.155


Product Name	Rated Output Current/Voltage/ Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Classic 300D	250A DC/30V/100% 300A DC/32V/60%	40-350A DC 3000 watts	Perkins 104.22 Diesel	4	32.7 @ 1800	45.5 x 24 x 65 (1156 x 610 x 1651)	1354 (614)

(1) With Wire Feed Module.

Commander® 300



Output    Input 

Rated at 300 amps @100 duty cycle and delivering up to 10,000 watts of AC auxiliary power for the jobsite, this capable industrial diesel engine driven welder / generator is loaded with features that make it a great choice for construction, maintenance, repair and pipe welding. Simply select a Process Mode, including CC-Stick, Downhill Pipe (for stick), Touch-Start™ TIG for easy arc starting or CV Wire for MIG (GMAW) or flux-cored (FCAW) welding and dial in your output. The deluxe model even has presettable dual digital meters for amps or voltage. Lincoln's award-winning  Chopper Technology delivers easy starts, smooth arc action, reduced spatter and great bead appearance. And, you can save time when you order the fully assembled Ready-Pak™, complete with the trailer, cables, and accessories you need to get started right away.

Processes

Stick, TIG, MIG, Flux-Cored, Gouging

Advantage Lincoln

- 300 amps DC @ 100% duty cycle and 375 amps DC @ 60% duty cycle. All ratings are at temperatures 104°F (40°C).
- 10,000 watts of continuous AC generator power.
- Simple to Operate – Select one of four Process Modes, including CC-Stick, Downhill Pipe (for stick), Touch-Start™ TIG or CV Wire, and then dial in the desired output.
- Five ranges with full overlap for stick pipe welding and other processes where slope control is desired. Fine-tuning within each range.
- Single, full-range control dial for CC-Stick, CV-Wire, and

TIG applications.

- CC-Stick mode is optimized for general purpose stick using E7018 low hydrogen electrode.
- Arc control in CC-Stick and CV-Wire modes for crisp or soft arc.
- Standard Touch-Start™ DC TIG welding, not just scratch start, for easy arc starting that avoids lungsten contamination and the use of high-frequency.
- Deluxe machine has dual digital output meters for pre-setting weld amps or voltage. Also displays actual outputs while welding.
- Take the hassle out of ordering - Order a Ready-Pak™ pre-assembled welding package or One-Pak™ welding package (some assembly required).
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer.)

Recommended General Options

Dual Output Meters and Gauges, Power Plug Kit, Full-KVA Power Plug Kit, GFCI Receptacle Kit, Medium Welder Trailer, Four Wheeled Steerable Yard Trailer, Ether Start Kit, Oil Drain Kit, Spark Arrestor Kit

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

Pro-Torch® TIG Torch PTA-26V, Hand Amptrol®, Foot Amptrol, Magnum® Parts Kit, Square Wave® TIG 175 PRO, Invertec® V205-T AC/DC One-Pak™ Package, Full-KVA Adapter Kit

Recommended Wire Feeder Options

LN-25 Wire Feeder, Drive Roll Kit, Magnum 300 Innershield® Gun, Magnum 300 MIG Gun, Magnum Gun Connector Kit, Magnum SG Spool Gun, SG Control Module, Input Cable

Recommended Plasma Cutting Options

Pro-Cut® 55, Full-KVA Adapter Kit

Order

- K1585-1 Commander 300 (Standard model)
- K1585-2 Commander 300 (Deluxe model)
- K1863-1 Commander 300 (Std.) One-Pak w/ Ball Hitch
- K1863-2 Commander 300 (Std.) One-Pak w/ Lunette Eye Hitch
- K1868-1 Commander 300 (Dlx.) One-Pak w/ Ball Hitch
- K1868-2 Commander 300 (Dlx.) One-Pak w/ Lunette Eye Hitch
- K2179-1 Commander 300 (Std.) Ready-Pak Pkg.
- K2180-1 Commander 300 (Dlx.) Ready-Pak Pkg.

Literature


E6.205

Product Name	Rated Output Current/Voltage/Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D inches (mm)	Net Weight lbs (kg)
Commander 300 (Standard)	300A CC / 32V / 100% 375A CC / 34V / 60%	30-375A DC 40-300A Pipe 20-250A TIG 14-32V CV AC Power 10,000 Watts	Deutz® F3L1011F Diesel	3	31@ 1800	50.9 x 31.5 x 63.1 (1293 x 800 x 1603)	1325 (601)
Commander 300 (Deluxe)							1330 (603)

Vantage[®] 500 **NEW!**



Output    **Input** 

If you are looking for a rugged, reliable and capable welder for demanding construction, rental fleet or turnaround repair applications, take a close look at the Vantage 500. Standard stainless steel roof and side panels, simple controls and Lincoln  Chopper Technology™ deliver the low maintenance, long service life, easy operation and great arc performance every owner appreciates.

Processes

Stick, TIG, MIG, Flux-Cored, Gouging

Advantage Lincoln

- Standard stainless steel roof, side panels and engine-access door deliver added protection, durability and corrosion-resistance. Eliminates need to replace these items due to paint damage or rust.
- Simple to Operate – Select one of four Process Modes, including CC-Stick, Downhill Pipe (for stick), Touch-Start™ TIG or CV Wire, and then dial in the desired output.
- CC-Stick mode is optimized for general purpose stick using Excalibur 7018 low hydrogen electrode.
- Downhill Pipe Mode with Active Arc Force Control – Enhanced downhill pipe welding mode. Fast travel speeds, especially on fill passes. Arc control adjustment for a soft, buttery arc or a more forceful, digging arc.
- Standard Touch-Start™ DC TIG welding, not just scratch start, for easy arc starting that avoids tungsten contamination and the use of high-frequency.

- Digital meters for amps and volts output make it easy to precisely set your procedures. Fuel, Oil Pressure and Engine Temperature gauges keep you on top of monitoring engine performance.
- Take the hassle out of ordering - Order a Ready-Pak™ pre-assembled welding package or One-Pak™ welding package (some assembly required).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer.)

Recommended General Options

Power Plug Kit, Full-KVA Power Plug Kit, Medium Welder Trailer, Four-Wheeled Steerable Yard Trailer, Ether Start Kit, Oil Drain Kit, Spark Arrester Kit, Cold Weather Kit, Service Indicator Kit, Lockable Fuel Cap/Flash Arrestor

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

Foot Amptrol™, Hand Amptrol, PTA-26V TIG Torch, Parts Kit, Square Wave TIG 175 Pro, Invertex® V205-T AC/DC One-Pak™ Package, Full-KVA Adapter Kit

Recommended Wire Feeder Options

LN-25 Wire Feeder, Drive Roll Kit, Magnum 350 Innershield Gun, Magnum 300 MIG Gun, Magnum Gun Connector Kit, Magnum SG Spool Gun, SG Control Module, Input Cable

Recommended Plasma Cutting Options

Pro-Cut 55, Full-KVA Adapter Kit

Order

- K2271-1 Vantage 500 Deutz (air-cooled)
- K2272-1 Vantage 500 Cummins (water-cooled)
- K2288-1 Vantage 500 Deutz One-Pak w/ Ball Hitch
- K2288-2 Vantage 500 Deutz One-Pak w/ Lunette Eye Hitch
- K2290-1 Vantage 500 Deutz Ready-Pak Pkg.
- K2289-1 Vantage 500 Cummins One-Pak w/ Ball Hitch
- K2289-2 Vantage 500 Cummins One-Pak w/ Lunette Eye Hitch
- K2291-1 Vantage 500 Cummins Ready-Pak Pkg.

Literature


E6.216

Product Name	Rated Output Current/Voltage/ Duty Cycle	Output Range	Type of Engine	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Vantage 500	500A/40V/100% 550A/36V/60% 575A/35V/50%	30-575A DC 40-300A Pipe 20-250A TIG 14-40V CV AC Power 12,000 watts	Deutz F3L-912 Diesel	3	44 @ 1800	48.6 x 31.5 x 63.1 (1234 x 800 x 1603)	1615 (733)
			Cummins B3.3 Diesel	4	56 @ 1800	50.8 x 31.5 x 63.1 (1290 x 800 x 1603)	1605 (728)

Air Vantage® 500 **NEW!**



Output    Input 

When you need it all, consider the rugged Air Vantage 500 for railroad, mining, heavy duty construction, and rental fleet use. A gear-driven compressor, with no belts or clutches to wear out, pumps out plenty of air for arc gouging, plasma cutting or almost any air tool. Stainless steel roof and side panels provide added durability and corrosion-resistance. A powerful 500 amps at 100% duty cycle is enough for almost any stick, TIG, MIG and flux-cored welding project. And, the precision arc starting provided by Lincoln  Chopper Technology and Touch-Start™ TIG will make any operator a better welder. Don't pay extra for plenty of AC generator power - up to 20,000 watts of 3-phase is standard. The reliable Cummins® B3.3 water-cooled diesel engine will keep you running — and working — for a long time.

Processes

Stick, TIG, MIG, Flux-Cored, Gouging

Advantage Lincoln

- VMAC rotary screw direct-drive air compressor rated at 60 CFM, 100 PSI, 100% duty cycle, delivers abundant air for arc gouging, plasma cutting (plasma cutter sold separately) and air tools such as an impact gun.
- 20 kW continuous 3-Phase 240V AC generator power rated at output will power industrial equipment such as plasma cutters, pumps, inverter welders and grinders.
- 12 kW continuous 1-phase AC generator power for common construction tools.

- Standard stainless steel roof, side panels and engine-access door deliver added protection, durability and corrosion-resistance. Eliminates need to replace these items due to paint damage or rust.
- Lockable engine-access door slides open for easy access in tight spaces.
- Simple to Operate – Select one of four Process Modes, including CC-Stick, Downhill Pipe (for stick), Touch-Start™ TIG or CV Wire, and then dial in the desired output.
- Take the hassle out of ordering - Order a Ready-Pak™ pre-assembled welding package or One-Pak™ welding package (some assembly required).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year Lincoln warranty on welder (engine is warranted separately by the manufacturer.)

Recommended General Options

Power Plug Kit, Full-KVA Power Plug, Medium Welder Trailer, Four-Wheeled Steerable Yard Trailer, Ether Start Kit, Oil Drain Kit, Spark Arrester Kit, Cold Weather Kit, Air Dryer Kit, Control Panel Cover Kit, Lockable Fuel Cap/Flash Arrestor, Cold Weather Heater and Tarp Kit

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

Foot Amptrol®, Hand Amptrol, PTA-26V TIG Torch, Parts Kit, Square Wave™ TIG 175 Pro, Invertec® V205-T AC/DC One-Pak™ Package, Full-KVA Adapter Kit

Recommended Wire Feeder Options

LN-25 Wire Feeder, Drive Roll Kit, Magnum® 350 Innershield® Gun, Magnum 300 MIG Gun, Magnum Gun Connector Kit, Magnum SG Spool Gun, SG Control Module, Input Cable

Recommended Plasma Cutting Options

Pro-Cut 55, Full-KVA Adapter Kit

Order

- K2325-1 Air Vantage 500
- K2364-1 Air Vantage 500 One-Pak w/ Ball Hitch
- K2365-1 Air Vantage 500 One-Pak w/ Lunette Eye Hitch
- K2366-1 Air Vantage 500 Ready-Pak Pkg.

Literature

E6.217

Product Name	Rated Output Current/Voltage/Duty Cycle	Output Range	Engine Model	No. of Cyl.	HP & Speed (rpm)	Dimensions H x W x D inches (mm)	Net Weight lbs (kg)
Air Vantage 500	500A/40V/100% 550A/36V/60% 575A/35V/50%	30-575A DC, 40-300A Pipe, 20-250A TIG, 14-40V CV, 12,000 watts, 1-Phase 20,000 watts, 3-Phase Compressor 60 CFM, 100 PSI	Cummins B3.3 Diesel	4	56@1800	50.8 x 31.5 x 63.1 (1290 x 800 x 1603)	1690 (766)

SP-135T



Output **CV** **DC** Input **1** **60**
PHASE Hz

Looking for a versatile, value-packed welding partner for your home hobby shop or workshop? Lincoln's SP-135T is a great choice! This lightweight, compact 120V wire feeder/welder breezes through MIG welds on a wide range of materials including mild steel, stainless steel and aluminum. It also handles flux-cored welds on mild steel with ease. Practically everything you need to MIG weld mild steel is right in the box – just install a cylinder of shielding gas and you'll be welding like a pro in no time!

Processes

MIG, Flux-Cored

Advantage Lincoln

- Large easy to set knobs provide 4-position adjustable tap voltage control and continuous full-range control of wire feed speed.
- Capabilities include welding 24 gauge (.024 in./0.6mm) through 5/16" (8.0mm) mild steel plate. Install K664-2 to weld 22 gauge (.030 in./0.8mm) through 12 gauge (.105 in./2.6mm) aluminum using .035" SuperGlaze 4043 wire.
- Designed to feed .023-.035" (0.6-0.9mm) diameter mild and stainless steel MIG wire, .035" (0.9mm) diameter flux-cored wire and .035" (0.9mm) diameter 4043 aluminum MIG wire.
- Gun trigger safety feature keeps welding wire electrically "cold" until trigger is pressed.

- Take the hassle out of ordering - Order a One-Pak™ welding package (some assembly required).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor. (90 days warranty on gun and cable.)

Base Unit Includes

- Magnum™ 100L welding gun and 10 ft. (3.0m) cable assembly, with gas nozzle, .023-.035" (0.6-0.9mm) cable liner, .023/.025" (0.6mm) contact tip.
- 10 ft. (3.0m) work cable and work clamp.
- 6 ft. (1.8m) input power cord with NEMA Type 5-15P plug for connection to standard 120 volt receptacles.
- Guide tubes and reversible drive roll ready to feed Lincoln's .025" (0.6mm), .030" (0.8mm) and .035" (0.9mm) diameter SuperArc L-56 MIG wire and .035" (0.9mm) diameter Innershield® NR®-211MP flux-cored wire.
- Factory installed gas solenoid valve for MIG welding.
- Adjustable gas regulator and 4.5 ft. (1.37m) hose for Argon and Argon-blend gases. Gas regulator requires an adapter (sold separately) for use with CO₂ cylinders.
- 2 lb. (.90 kg) spool of .025" (0.6mm) SuperArc L-56 MIG wire.
- Six spare .023/.025" (0.6mm) contact tips.
- Welding handheld with #10 filter plate and clear glass cover plate.

Recommended General Options

Welding Cart, .035 Innershield Welding Kit, .035 Aluminum Welding Kit, Deluxe Adjustable Gas Regulator and Hose Kit

Order

K1873-1 SP-135T 120/1/60
 K2301-1 SP-135T One-Pak™ w/Car

Literature

E7.21

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
SP-135T	K1873-1	120/1/60	90A/19V/20%	20A	25-135A 50-300 lpm WFS (1.2-7.6 m/min) Max. OCV: 29V	12 x 9.75 x 16.5 (305 x 248 x 419)	47 (21.4)

SP-135 Plus



Output **CV** **DC** Input **1** **60**
PHASE Hz

This user-friendly wire feeder/welder from Lincoln Electric is ready to help you make short work of many around-the-home jobs, hobby projects, autobody repairs or farm chores! The SP-135 Plus handles MIG welds on a wide range of materials including mild steel, stainless steel and aluminum. Flux-cored welds on mild steel are a breeze. The SP-135 Plus also boasts industry leading output and arc performance in the 115V machine class. To top it off, we've made it easy to get started – virtually everything you need to MIG weld mild steel is included in one convenient package! Just add shielding gas.

Processes

MIG, Flux-Cored

Advantage Lincoln

- Continuous full-range adjustment of voltage and wire feed speed allows for fine-tuning of the arc and precise control of heat input.
- Capabilities include welding 24 gauge (.024 in./0.6mm) through 5/16" (8.0mm) mild steel plate. Install K663-2 to weld 22 gauge (.030 in./0.8mm) through 1/8" (3.2mm) aluminum using .035" SuperGlaze 4043 wire.
- Designed to feed .023-.035" (0.6-0.9mm) diameter mild and stainless steel MIG wire, .035" (0.9mm) diameter flux-cored wire and .035" (0.9mm) diameter 4043 aluminum MIG wire.

- Take the hassle out of ordering - Order a One-Pak™ welding package (some assembly required).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor. (90 days warranty on gun and cable).

Base Unit Includes

- Magnum™ 100L welding gun and 10 ft. (3.0m) cable assembly, with gas nozzle, .023-.035" (0.6-0.9mm) cable liner, .023/.025" (0.6mm) contact tip.
- 10 ft. (3.0m) work cable and work clamp.
- 6 ft. (1.8m) input power cord with NEMA Type 5-15P plug for connection to standard 115 volt receptacles.
- Guide tubes and reversible drive roll ready to feed Lincoln's .025" (0.6mm), .030" (0.8mm) and .035" (0.9mm) diameter SuperArc™ L-56 MIG wire and .035" (0.9mm) diameter Innershield® NR®-211-MP flux-cored wire.
- Factory installed gas solenoid valve for MIG welding.
- Adjustable gas regulator and 4.5 ft. (1.37m) hose for Argon and Argon-blend gases. Gas regulator requires an adapter (sold separately) for use with CO₂ cylinders.
- 2 lb. (0.90 kg) spool of .025" (0.6mm) SuperArc L-56 wire.
- .030" (0.8mm) contact tip.

Recommended General Options

Welding Cart, .035 Innershield® Welding Kit, .035 Aluminum Welding Kit, Deluxe Adjustable Gas Regulator & Hose Kit

Order

K1874-2 SP-135 Plus 115/1/60
 K2299-1 SP-135 Plus One-Pak™ w/Cart

Literature

E7.22

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
SP-135 Plus	K1874-2	115/1/60	90A/18V/20%	20A	25-135A 50-400 ipm WFS (1.2-10.2 m/min) Max. OCV: 28V	12 x 9.75 x 16.5 (305 x 248 x 419)	54 (24.3)

SP-175T



Output **CV** **DC** Input **1** **60**
PHASE Hz

Lincoln's SP-175T gives you the power you need, the portability you want, and the performance you demand! Just plug this quality-driven wire feeder/welder into a 208 or 230V outlet in your garage, barn or shop, and start crossing projects off your list! The SP-175T package includes most of the essentials for MIG welding on mild steel – there's even a spool of SuperArc™ wire! Simply add a cylinder of shielding gas and you're good to go. If you're a stickler for quality, you'll love the outstanding arc performance this well-engineered machine delivers!

Processes

MIG, Flux-Cored

Advantage Lincoln

- Large easy to set knobs provide 5-position adjustable tap voltage control and continuous full-range control of wire feed speed.
- MIG weld on mild steel as thin as 24 gauge (.024 in./0.6mm) with .025" (0.6mm) SuperArc™ L-56 wire. Flux-cored wire weld up to 5/16" (8.0mm) mild steel plate with Innershield® NR®-211-MP and up to 1/2" (12.7mm) plate with .045" (1.2mm) Innershield NR-212. Install K664-2 to weld 22 gauge (.030 in./0.8mm) through 1/4" (6.4mm) aluminum using .035" SuperGlaze 4043.
- Designed to feed .023-.035" (0.6-0.9mm) diameter mild and stainless steel MIG wire, .035-.045" (0.9-1.2mm) diameter flux-cored wire and .035" (0.9mm) diameter 4043 aluminum MIG wire.

- Gun trigger safety feature keeps welding wire electrically "cold" until trigger is pressed.
- Take the hassle out of ordering - Order a One-Pak™ welding package (some assembly required).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor. (90 days warranty on gun and cable.)

Base Unit Includes

- Magnum™ 100L welding gun and 10 ft. (3.0m) cable assembly, with gas nozzle, .023-.035" (0.6-0.9mm) cable liner and .023/.025" (0.6mm) contact tip.
- 10 ft. (3.0m) work cable and work clamp.
- 6 ft. (1.8m) input power cord with 230 volt, 50 amp NEMA Type 6-50P three-prong plug.
- Guide tubes and reversible drive roll ready to feed Lincoln's .025" (0.6mm), .030" (0.8mm) and .035" (0.9mm) diameter SuperArc L-56 MIG wire and .035" (0.9mm) diameter Innershield® NR®-211-MP flux-cored wire.
- Factory installed gas solenoid valve for MIG welding.
- Adjustable gas regulator and 4.5 ft. (1.37m) hose for Argon and Argon-blend gases. Gas regulator requires an adapter (sold separately) for use with CO₂ cylinders.
- 2 lb. (.90 kg) spool of .025 (0.6mm) L-56 MIG wire.
- .030" (0.8mm) contact tip.

Recommended General Options

Welding Cart, .035 Innershield® Welding Kit, .045 Innershield Welding Kit, .035 Aluminum Welding Kit, Deluxe Adjustable Gas Regulator & Hose Kit

Order

K1875-1 SP-175T 208/230/1/60
 K2302-1 SP-175T One-Pak™ w/Cart

Literature

E7.34

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
SP-175T	K1875-1	208/230/1/60	130A/20V/30%	22/20A	30-175A 50-400 ipm WFS (1.2-10.2 m/min) Max. OCV: 33V	12 x 9.75 x 16.5 (305 x 248 x 419)	57 (25.9)

SP-175 Plus

Wire Feeder/Welder



"The SP-175 Plus is the workhorse on the site – we use it five to six hours a day, five days a week and we have had no downtime. The machine is very dependable and functions extremely well, especially under our unique working conditions."

Richard J. Esswein
Vice President, Sales
Penn Perry, Inc.

LINCOLN[®]
ELECTRIC
THE WELDING EXPERTS

www.lincolnelectric.com

SP-175 Plus



Output **CV** **DC** Input **1** **60**
PHASE Hz

The SP-175 Plus is all about power and control! This work-loving, compact, portable wire feeder/welder makes MIG or flux-cored welding on mild steel loads of fun. MIG welding on stainless steel or aluminum is a pleasure too. Continuous output controls on the 208/230V powered SP-175 Plus let you fine-tune both the wire feed speed and the voltage output – so you get a quality weld time after time! And getting started on your mild steel project with MIG welding is easy – just add a cylinder of shielding gas, everything else is right in the box!

Processes

MIG, Flux-Cored

Advantage Lincoln

- Continuous full-range adjustment of voltage and wire feed speed allows for fine-tuning of the arc and precise control of heat input.
- MIG weld on mild steel as thin as 24 gauge (.024 in./0.6mm). Flux-cored wire weld up to 5/16" (8.0mm) mild steel plate. Add K663-2 to weld 22 gauge (.030 in./0.8mm) through 1/4" (6.4mm) aluminum using .035" SuperGlaze 4043 wire.
- Designed to feed .023-.035" (0.6-0.9mm) diameter mild and stainless steel MIG wire, .035-.045" (0.9-1.2mm) diameter flux-cored wire and .035" (0.9mm) diameter 4043 aluminum MIG wire.

- Take the hassle out of ordering - Order a One-Pak™ welding package (some assembly required).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor. (90 days warranty on gun and cable.)

Base Unit Includes

- Magnum™ 100L welding gun and 10 ft. (3.0m) cable assembly, with gas nozzle, .023-.035" (0.6-0.9mm) cable liner, .023/.025" (0.6mm) contact tip.
- 10 ft. (3.0m) work cable and work clamp.
- 6 ft. (1.8m) input power cord with 230 volt, 50 amp NEMA Type 6-50P three-prong plug.
- Guide tubes and reversible drive roll ready to feed Lincoln's .025" (0.6mm), .030" (0.8mm) and .035" (0.9mm) diameter SuperArc™ L-56 MIG wire and .035" (0.9mm) diameter Innershield® NR®-211-MP flux-cored wire.
- Factory installed gas solenoid valve for MIG welding.
- Adjustable gas regulator and 4.5 ft. (1.37m) hose for Argon and Argon-blend gases. Gas regulator requires an adapter (sold separately) for use with CO₂ cylinders.
- 2 lb. (0.9kg) spool of .025" (0.6mm) SuperArc L-56 wire.
- One .030" (0.8mm) and one .035" (0.9mm) contact tip.

Recommended General Options

Welding Cart, .035 Innershield® Welding Kit, .045 Innershield® Welding Kit, .035 Aluminum Welding Kit, Deluxe Adjustable Gas Regulator & Hose Kit

Order

K1642-3 SP-175 Plus 208/230/1/60
 K2300-1 SP-175 Plus One-Pak™ w/Cart

Literature

E7.35

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
SP-175 Plus	K1642-3	208/230/1/60	130A/20V/30% (230V) 130A/20V/25% (208V) 63A/20V/20% (CSA)	23/21A	25-175A 50-400 ipm WFS (1.2-10.2 m/min) Max. OCV: 33V	12 x 9.75 x 16.5 (305 x 248 x 419)	60 (27.0)

Power MIG[®] 215

NEW!



The Power MIG 215 offers the autobody and sheet metal fabrication industries top welding performance and a host of professional features not often found at this price. Featuring Diamond Core™ Technology, the Power MIG 215 delivers a forgiving arc, excellent out-of-position arc action, a wide voltage sweet spot at a given wire feed speed and low spatter. A rugged industrial wire drive system, wide 30-250 amp output range, standard 15 foot gun and cable assembly, and 115 volt auxiliary power receptacle are uncommon in this class. In addition, the 7 voltage tap ranges make it easy to operate and the locking storage compartment keeps your valuable tools secure. The Power MIG 215 – truly The Professional's Choice.

Processes

MIG, Flux-Cored

Advantage Lincoln

- Diamond Core Technology, a patented choke design, delivers a forgiving arc, even with large stickout changes, excellent out-of-position arc action, a wide voltage sweet spot at a given wire feed speed for steel or aluminum and low spatter.
- More Output – Rated at 215 amps / 22 volts @30% duty cycle, with an amperage range of 30-250 amps DC, the Power MIG 215 has the highest rating and widest amperage range in its class.

- Rugged cast aluminum industrial wire drive features dual driven rolls, regulated wire feed speed control, easy-turn numeric tension indicator, brass-to-brass connections and Lincoln's 100% wire supporting split wire guide system.
- The Power MIG 215 is the only machine in its class to feature a 115 volt auxiliary power receptacle.
- Generous 15 ft. (4.5m) gun and cable assembly makes it easy to reach your work.
- Seven tapped voltage ranges make it easy to select the right procedure for your application.
- Lincoln's innovative value-adding features include an easy-load gas cylinder platform, a locking storage compartment with tool tray for your personal tools and valuables, virtually fool-proof input reconnect panel and easy-load wire spindle system with tool-less brake adjustment.
- Three-year warranty on parts and labor (90 days warranty on gun).

Base Unit Includes

- Power MIG 215.
- Magnum 250L gun and 15 ft. (4.5m) "quick-connect" cable assembly equipped with fixed gas nozzle assembly.
- Work clamp and 10 ft. (3.0m) cable.
- 10 ft. (3.0m) input power cable with plug.
- Dual driven drive rolls and split wire guides to support the wire 100%.
- Drive roll and wire guide to feed both .035" and .045" wire.
- Gas regulator and hose kit for CO₂ or argon blend gases.

Recommended General Options

Magnum[®] Gun, Magnum Connection Kit, Magnum Spool Gun with Adapter Module & Gun Holder, Aluminum Feeding Kit, 30 Lb. Readi-Reel[®] Adapter, Spindle Adapter for 8" O.D. Spools, Dual Cylinder Mounting Kit

Order

K2326-1 Power MIG™ 215 208/230/1/50/60

Literature

E7.51

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output(2)	Output Range	Dimensions H x W x D inches (mm)	Net Weight lbs. (kg)
Power MIG 215	K2326-1	208/230/1/50/60	215A / 22V(1) / 30% 190A / 23V / 40% 170A / 24V / 60%	45/41A 42/38A 39/35A	30-250 Amps DC 50-700 ipm WFS (1.3 - 17.7 m/min) Max. OCV: 39	31.8 x 18.9 x 38.8 (808 x 408 x 985)	198 (90)

(1) 21V on 220V 50 Hz input.

(2) Input current is at the rated output with the 115V auxiliary receptacle also drawing 15 amps.

Power MIG® 255

The Professional's Choice



"Our shop does repair work on farming and hauling equipment such as crushers, trailers, trucks, dollies and loaders. With such a wide variety of work, we need versatility in a welding machine and that is why we use the Lincoln Electric Power MIG® 255. We can be welding an exhaust pipe that is 14 gauge thick and then easily changeover to weld something that is 1/2" thick. We also weld on a broad range of metals from high tensile strength steels to aluminum to mild steel - and the Power MIG can accommodate them all. What is most impressive about the Power MIG is that it's easy to set-up with one-knob control, it even has a chart to help with the settings. Because the unit is on wheels, our operators can maneuver it around the shop from one job to another. The unit makes great welds, I would recommend it."

Dan Beck, Vice President
B&B Equipment

LINCOLN®
ELECTRIC
THE WELDING EXPERTS

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Power MIG[®] 255



Output **CV** **DC** Input **1** **60**
PHASE Hz

Welding operators in the light industrial metal fabrication industry or maintenance, repair and farm shops will appreciate the professional features and arc performance of the Power MIG 255. Starting with Diamond Core™ Technology, this Power MIG delivers a forgiving arc, excellent out-of-position arc action, a wide voltage sweet spot and low spatter. Back that with a rugged wire drive system, dual digital presettable/actual meters, standard 15 foot gun and cable assembly, and you start to get the idea. Add the locking storage compartment to keep your valuable tools secure, the spool gun choices, the precise tachometer drive speed regulation and you see why professionals choose the Power MIG. Power MIG 255 – The Professional's Choice.

Processes
 MIG, Flux-Cored

Advantage Lincoln

- Diamond Core Technology™, a patented choke design, delivers:
 - A forgiving arc, even with large stickout changes
 - Excellent out-of-position arc action
 - A wide voltage sweet spot at a given wire feed speed
 - Low spatter
- Conservatively rated at 250 amps / 25 volts @40% duty cycle, with an amperage range of 30-300 amps.
- Rugged cast aluminum industrial wire drive features dual driven rolls, easy-turn numeric tension indicator, brass-

to-brass connections and Lincoln's 100% wire supporting split wire guide system.

- NEW – Generous 15 ft. (4.5m) gun and cable assembly makes it easy to reach your work.
- Two Spool Gun options – choose the economical Magnum[®] SG or deluxe Prince[®] XL. Both include wire feed speed setting at the gun. Power MIG 255 with Magnum SG is your lowest price spool gun package in this class.
- Digital meters display preset wire feed speed and voltage and actual amperage and voltage while welding.
- Lincoln's innovative value-adding features include an easy-load gas cylinder platform, a locking storage compartment with tool tray for your personal tools, convenient gun holster, virtually fool-proof input reconnect panel and easy-load wire spindle system with tool-less brake adjustment.
- Three-year warranty on parts and labor (90 days warranty on gun).

Base Unit Includes

- Power MIG 255.
- Magnum 250L gun and 15 ft. (4.5m) "quick-connect" cable assembly equipped with fixed gas nozzle assembly.
- Lockable storage compartment with tool tray for keeping tools safe.
- Work clamp and 10 ft. (3.0m) cable.
- 10 ft. (3.0m) 230V input power cable with plug.
- Dual driven drive rolls and split wire guides to support the wire 100%.
- .035"/.045 (0.9/1.2mm) drive rolls and guide for steel.
- Gas regulator and hose kit for CO₂ or argon blend gases.

Recommended General Options

Timer Kit, Dual Cylinder Mounting Kit, Aluminum Feeding Kit, Prince[®] XL Spool Gun and Adapter Module, Magnum SG Spool Gun, Magnum SG Spool Gun Adapter Kit, Spool Gun Holder, Magnun Guns, Magnum™ Connection Kit, Fast-Mate™ Adapter Kit, 30 Lb. Readi-Reel[®] Adapter, Spindle Adapter for 8" O.D. Spools

Order

- K1693-1 Power MIG 255 208/230/1/60
- K1693-2 Power MIG 255 230/460/575/1/60
- K2351-1 Power MIG™ 255 One-Pak™ Spool Gun Pkg.

Literature

E7.53

NOTE: Prince[®] XL Spool Gun is a registered trademark of MK Products, Inc.

Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current at Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Power MIG 255	K1693-1	208/230/1/60	250A/26V/40% 200A/28V/60% 145A/26V/100%	50/46A 41/37A 33/30A	30-300 Amps 50-700 ipm WFS (1.3-17.7 m/min) Max. OCV: 40V	31.8 x 18.9 x 38.8 (808 x 480 x 985)	220 (100) (with gun)
	K1693-2	230/460/ 575/1/60		47/24/19A 39/20/16A 31/16/13A			

Power MIG® 300



Output **CC CV** **DC** Input **1 PHASE** **50/60 Hz**

The Power MIG 300 is a single phase, synergic wire feed/welder welding package with unbeatable multi-process welding capability. The synergic design, traditionally only available in more expensive welders, gives you ultimate control of the arc by automatically setting voltage with wire feed speed. True pulsing and Pulse-on-Pulse™ capabilities ensure that superior feeding is matched by high quality arc performance. Choose the Push model with the popular Magnum 300 push gun for typical steel applications or the Push-Pull model with our top-of-the-line Python push-pull gun for tough aluminum jobs. The Power MIG 300 is a great all-in-one welder for sheet metal fabrication of all types, including aluminum.

Processes

Stick, TIG, MIG, Pulsed, Flux-Cored

Advantage Lincoln

- Superior starting complements the soft, stable welding arc and very low spatter.
- Three ways to weld aluminum – standard push gun, optional spool gun, or optional push-pull aluminum feeding capability for high-quality feeding with thinner aluminum wires. No PC board add-on required!
- Synergic control of voltage with wire feed speed allows you to set weld procedures with only one control for simplicity and ease of use.
- Capable of true pulse MIG welding – not just globular transfer methods referred to as pulse.

- New Pulse-on-Pulse™ improves cleaning action when welding aluminum and delivers a TIG-like appearance to the weld beads.
- Lincoln Chopper Technology™ delivers high quality welds by increasing the control over the welding arc.
- 5-350 amps deliver the power you need for a wide range of materials.
- One model runs single-phase from 208–575 volts for plug-in virtually anywhere!
- Manufactured under a quality system certified ISO 9001 requirements.
- Three-year warranty on parts and labor. (90 days warranty on gun).

Base Unit Includes

Push Model: Power MIG 300, Magnum 300 Gun, .035" (0.9 mm)/.045" (1.2 mm) Drive Rolls and Guide for steel, Regulator and Hose, Work clamp and cable, 230V input cord and plug.

Push-Pull Model: Power MIG 300, Python Gun (includes appropriate adapter), 3/64" (1.2 mm) Drive Rolls and Guide for aluminum, Regulator and Hose, 16 lb. (7.3 kg) Spool of 3/64" (1.2 mm) SuperGlaze 4043 Aluminum Wire, Work clamp and cable, 230V input cord and plug

Recommended Stick Options

Accessory Kit, Remote Output Control

Recommended TIG Options

Magnum Pro-Torch TIG Torch, Foot Amptrol, Hand Amptrol, Arc Start Switch

Recommended General Options

Prince® XL Spool Gun, Spool Gun Holder, Prince® XL Push-Pull Gun, Python® Push-Pull Gun, CobraMax® Push-Pull Gun, Push-Pull Gun Connection Kit, Aluminum Feeding Kit, Magnum 300 Gun, Gun Receiver Bushing, Magnum Connection Kit, Dual Cylinder Mounting Kit, Readi-Reel® Adapter, Spindle Adapter for 8" O.D. Spools

Order

- K1694-1 Power MIG 300 with Magnum push gun
- K2177-1 Power MIG 300 with Python push-pull gun

Literature

E7.56

NOTE: Prince® XL, Python® and CobraMAX® are registered trademarks of MK Products, Inc.

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D inches (mm)	Net Weight lbs. (kg)
Power MIG 300 Push Model	K1694-1	208/230/460/575/1/50/60	230A/29V/100% 300A/32V/60%	48/43/22/17A 72/62/31/25A	5-350 Amps DC 50-700 ipm WFS (1.3 – 17.7 m/min) Max. OCV 76	31.8 x 18.9 x 38.8 (808 x 408 x 985)	255 (116)
Power MIG 300 Push-Pull Model		K2177-1					

LN-7 and LN-7 GMA



The LN-7 GMA is a semiautomatic constant speed wire feeder that provides dependable performance and reliable operation, making it ideal for shop or field operations. The LN-7 is designed for flux-cored wire without gas (Innershield®) and the LN-7 GMA is designed for MIG and flux-cored wire with gas (Outershield®). For precise wire feeding and quality welds, the LN-7 features controlled wire feed speed and voltage during starting for clean, positive starts and reduced stubbing, skipping and spatter. Solid state control compensates for wire drag and input line variations to maintain accurate wire feed speed.

Processes

MIG, Flux-Cored, Submerged Arc(1)

Advantage Lincoln

- LN-7 feeds up to 3/32" (2.4mm) solid and 7/64" (2.8mm) flux-cored wires, from 50-500 inches per minute (1.3-12.7m/min) wire feed speed.
- LN-7 GMA feeds up to 1/16" (1.6mm) solid and 5/64" (2.0mm) flux-cored wires, from 75-700 inches per minute (1.9-17.8 m/min) wire feed speed.
- Unique drive roll design provides positive feeding and quick reloading by simply starting wire into guide tube. The drive rolls and guide tubes are designed for long life and precise wire feeding.

(1) LN-7 model only.

- Four-roll wire drive system available for additional wire feeding force and easier feeding of soft wires (LN-7 GMA model only).
- Completely enclosed case protects the heavy duty wire drive mechanism from damage, but allows easy access to drive rolls.
- Control circuit features "cold electrode" when the gun trigger is released for an added measure of safety.
- Low voltage (24 volts) gun trigger circuit.
- Dynamic braking system stops wire feed motor quickly to minimize crater sticking problems.
- Take the hassle out of ordering - Order a Ready-Pak™ pre-assembled welding package.
- Three-year warranty on parts and labor.

Required Options

Gun and Cable Assembly, Drive Roll Kit, Control Cable, Weld Power Cable

Recommended General Options

Universal Wire Reel Stand, Insulated Lift Bail, Caster Kit, Swivel Platform, Spindle Adapter, Read-Reel® Adapter, Coil Adapter, Plastic Wire Cover Kit, Digital Voltmeter, Water Solenoid Kit, Gas Solenoid Assembly, Gas Guard Regulator, GMA Timer Kit, Burnback Kit, Magnetic Flux Screen Separator, Flux Screen, Continuous Flux Feeding Tank Assembly, Undercarriage

Recommended Power Source Options

CV-250, CV-300, CV-400, CV-655, Invertec® V350-PRO, DC-400, DC-600, DC-655, DC-1000

Order

- K521 LN-7 (2 roll)
- K440-2 LN-7 GMA (2 roll) with gas solenoid valve
- K567-2 LN-7 GMA (4 roll) with gas solenoid valve
- K1801-1 LN-7 GMA (2 roll) Ready-Pak Pkg.

Literature

E8.10

Product Name	Product Number	Input Power	Output Capacity Current / Duty Cycle	Wire Feed Speed Range ipm (m/min)	Wire Size Range in. (mm)	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)	
LN-7 (2 Roll)	K521	115 VAC 50/60 Hz 2.5 Amps	600 Amps @ 60%	50-500 (1.3-12.7)	Solid .023-.3/32 (0.6-2.4)	Cored .045-7/64 (1.2-2.8)	10.9 x 9.8 x 9.6 (277 x 249 x 244)	24 (10.9)
LN-7 GMA (2 Roll)	K440-2			75-700 (1.9-17.8)	.023-1/16 (0.6-1.6)	.045-5/64 (1.2-2.0)	10.9 x 9.8 x 9.6 (277 x 249 x 244)	26 (10.9)
LN-7 GMA (4 Roll)	K567-2			75-700 (1.9-17.8)	.023-1/16 (0.6-1.6)	.045-5/64 (1.2-2.0)	11.1 x 11.6 x 9.7 (282 x 295 x 246)	32 (13.8)

LN-742



Flexibility and advanced capabilities lend to the popularity of the LN-742 for semiautomatic wire feeder solutions. The LN-742 features a trigger mode selection for 2-step or 4-step and timer controls for burnback, spot times and preflow/postflow shielding gas. The unit is powered by a 42V motor drive system for additional safety.

Processes

MIG, Flux-Cored

Advantage Lincoln

- 2 or 4 roll wire drive for positive wire feeding.
- Dynamic braking system minimizes crater sticking problems.
- Tool-less quick release wire drive tension system for easy wire or gun changes.

- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Required Options

Gun and Cable Assembly, Drive Roll Kit, Control Cable, Weld Power Cable

Recommended General Options

Universal Wire Reel Stand, Insulated Lift Bail, Light Duty Caster Kit, Swivel Platform, Spindle Adapter, Readi-Reel® Adapters, Coil Adapter, Wire Cover, Remote Control Kit, Gas Guard Regulator, Undercarriage

Recommended Power Source Options

CV-250, CV-300, CV-400, CV-655, Invertec® V350-PRO, DC-400, DC-600, DC-655, STT-II

Order

- K617-1 LN-742 (2 roll)
K618-1 LN-742 (4 roll)

Literature

E8.20

Product Name	Product Number	Wire Feed Speed Range ipm (m/min)	Wire Size Range in. (mm)		Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
			Solid	Cored		
LN-742 (2 roll)	K617-1	50-770 (1.25-19.5)	.025 -1/16 (0.6-1.6)	.045-3/32 (1.2-2.8)	2 roll: 10.9 x 9.8 x 9.6 (277 x 248 x 244)	2 roll: 24 (10.8)
LN-742 (4 roll)	K618-1				4 roll: 11.1 x 11.6 x 9.7 (282 x 295 x 246)	4 roll: 28.7 (13.0)

LN-8



The LN-8 is a semi-automatic constant speed wire feeder that provides dependable performance and reliable operation, making it ideal for shop or field operations. For precise wire feeding and quality welds, the LN-8 features controlled wire feed speed and voltage during starting for clean, positive starts and reduced stubbing, skipping and spatter.

Processes

MIG, Flux-Cored, Submerged Arc

Advantage Lincoln

- LN-8 model feeds up to 3/32" (2.4mm) solid and .120" (3.0mm) flux-cored wires, from 50-600 inches per minute (1.3-12.7 m/min) wire feed speed.
- Unique drive roll design provides positive feeding and quick reloading by simply inserting the wire into the incoming guide tube.
- Completely enclosed case protects the heavy duty wire drive mechanism from damage, but allows easy access to drive rolls.
- Dynamic braking system stops wire feed motor quickly to minimize crater sticking problems.

- Solid state control compensates for wire drag and input line variations to maintain accurate wire feed speed.
- Control of wire feed speed and voltage from the wire feeder, eliminates the need to return to the power source to adjust procedures.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Required Options

Gun and Cable Assembly, Drive Roll Kit, Control Cable, Weld Power Cable

Recommended General Options

Universal Wire Reel Stand, Insulated Lift Bail, Light Duty Caster Kit, Swivel Platform, Spindle Adapter, Readi-Reel® Adapter, Coil Adapter, Cover Kit, Meter Kit, Burnback Kit, Gas Solenoid Assembly, Undercarriage, Flux Screen, Magnetic Flux Screen Separator, Continuous Flux Feeding Tank Assembly, Mechanized Submerged Arc Gun, Mechanized Hand Travel Unit, Power Pack, Squirtmobile®

Recommended Power Source Options

CV-300, CV-400, CV-655, DC-400, DC-600, DC-655

Order

K297 LN-8 Wire Feeder

Literature

E8.30

Product Name	Product Number	Input Power	Output Capacity Current/Duty Cycle	Wire Feed Speed Range lpm (m/min)	Wire Size Range in. (mm)	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
LN-8	K297	115 VAC 50/60 Hz	600A @ 60%	50-600 (1.3-15.2)	.045-.120 (1.2-3.0) Cored .030-3/32" (0.8-2.4) Solid	10.9 x 9.8 x 9.6 (277 x 248 x 244)	36 (16.2)

LN-9 and LN-9 GMA



The LN-9 and LN-9 GMA are semiautomatic constant speed wire feeders that provide dependable performance and reliable operation, making them ideal for shop or field operations. The LN-9 is designed for flux-cored wire without gas (Innershield®) and submerged arc welding, while the LN-9 GMA is designed for MIG and flux-cored wire with gas (Outershield®). For precise wire feeding and quality welds, the LN-9 features controlled wire feed speed and voltage during starting for clean, positive starts and reduced stubbing, skipping and spatter. Solid state control compensates for wire drag and input line variations to maintain accurate wire feed speed.

Processes

MIG, Flux-Cored, Submerged Arc(1)

Advantage Lincoln

- LN-9 feeds up to 3/32" (2.4mm) solid and .120" (3.0mm) flux-cored wires, at 50-600 inches per minute (1.3-15.3 m/min) wire feed speed.
- LN-9 GMA feeds up to 1/16" (1.6mm) solid and 5/64" (2.0mm) flux-cored wires at 80-980 inches per minute (2.0-24.9 m/min) wire feed speed.
- Unique drive roll design provides positive feeding and quick reloading by simply starting wire into the guide

(1) LN-9 model only.

tube. The drive rolls and guide tubes are designed for long life and precise wire feeding.

- Four-roll wire drive system available for additional wire feeding force and easier feeding of soft wires (LN-9 GMA model only).
- Completely enclosed case protects the heavy duty wire drive mechanism from damage, but allows easy access to drive rolls.
- Standard digital meter can be set to read volts, inches or meters/minute.
- Control circuit features "cold electrode" when the gun trigger is released for added safety.
- Dynamic braking system stops wire feed motor quickly to minimize crater sticking problems.
- Three-year warranty on parts and labor.

Required Options

Gun and Cable Assembly, Drive Roll Kit, Control Cable, Weld Power Cable

Recommended General Options

Universal Wire Reel Stand, Insulated Lift Bail, Caster Kit, Swivel Platform, Spindle Adapter, Readi-Reel® Adapter, Coil Adapter, Wire Cover, Gas Solenoid Kit, Gas Guard Regulator, GMA Timer Kit, Burnback Kit, Undercarriage, Dual Procedure Kit, Magnetic Flux Screen Separator, Flux Screen, Wire Reel and Flux Tank Assembly, Continuous Flux Feeding Tank Assembly, Mechanized Hand Travel Unit, Power Pack, Squirtmobile®

Recommended Power Source Options

CV-400, CV500-I, CV-655, DC-400, DC-600, DC-655, DC-1000

Order

- K357-1 LN-9 Wire Feeder (2 Roll)
- K424-1 LN-9 GMA, (2 Roll) with gas solenoid valve
- K568-2 LN-9 GMA, (4 Roll) with gas solenoid valve

Literature

E8.50

Product Name	Product Number	Input Power	Output Capacity Current/Duty Cycle	Wire Feed Speed Range		Wire Size Range in. (mm)			Dimensions H x W x D in. (mm)	Net Wght. lbs. (kg)
				ipm (m/min)	Aluminum	Solid	Cored	Hardfacing		
LN-9 (2 Roll)	K357-1	115 VAC 50/60 Hz 2.5 Amps	600A / 60%	50-600 (1.3-15.3)	---	.030-.3/32 (0.8-2.4)	.035-.120 (0.9-3.0)	7/64 (2.8)	11.5 x 11.3 x 11.5 (292 x 287 x 292)	42 (19)
LN-9 GMA (2 Roll)	K424-1			80-980 (2.0-24.9)	.035-1/16 (0.9-1.6)	.023-1/16 (0.6-1.6)	.035-5/64 (0.9-2.0)	---	11.5 x 11.3 x 11.5 (292 x 287 x 292)	30 (13.6)
LN-9 GMA (4 Roll)	K568-2			80-980 (2.0-24.9)	.035-1/16 (0.9-1.6)	.023-1/16 (0.6-1.6)	.035-5/64 (0.9-2.0)	---	11.5 x 11.3 x 11.5 (292 x 287 x 292)	45 (20.4)

LN-10



The LN-10 semiautomatic wire feeder features the revolutionary split wire guide which precisely aligns and supports the wire through the entire feeding system. The system also features a rugged 4 driven roll design for positive wire feeding. The LN-10's modular design provides for many mounting options, including boom mounting.

Processes

MIG, Flux-Cored

Advantage Lincoln

- Standard dual procedure allows operator to set different voltage and wire feed speeds and switch between the two.
- Selectable trigger control for standard 2-step, interlock- ing 4-step, spot weld and cold feed trigger control.

- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Required Options

Gun and Cable Assembly, Drive Roll Kit, Control Cable, Weld Power Cable

Recommended General Options

Dual Procedure Switch, Dual Procedure/Remote Control Pendant, Remote Interface Kit, 42 Volt Transformer Kit, Spindle Adapter, Readi-Reel® Adapter, Coil Adapter, Wire Cover, Water Connection Kit, Gas Guard Regulator, Swivel Platform, Light Duty Caster Kit, Insulated Lift Bail

Recommended Power Source Options

CV-250, CV-300, CV-400, CV-655, Invertec® V350-PRO, DC-400, DC-600, DC-655

Order

- K1559-3 Bench
- K1559-4 Bench (High-Speed)
- K1564-4 Generic Boom

Literature

E8.200

Product Name	Product Number	Wire Feed Speed Range ipm (m/min)	Wire Size Range in. (mm)		Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
			Solid	Cored		
LN-10 (Standard Speed)	K1559-3 K1564-4	35-750 (0.8-19.0)	.023 - 5/64 (0.6-2.4)	.035-1/8 (0.9-3.1)	16 x 15 x 31 (406 x 381 x 787)	65 (29.5)
LN-10 (High Speed)	K1559-4	55-1250 (1.3-31.7)	.023-1/16 (0.6-1.6)	.035-5/64 (0.9-2.0)		

DH-10



Precision times two! This DH-10 dual wire feeder utilizes Lincoln's revolutionary split wire guide system to precisely align and feed wire, and its dual wire feeder system allows you to weld with two different wires, with two different welding procedures using one power source. Great for production welding shops where maximum welding flexibility and productivity is demanded.

Processes

MIG, Flux-Cored, Submerged Arc

Advantage Lincoln

- Each side of the DH-10 wire drive system is driven by its own motor and gear box for confidence that the feeder won't go down.
- Split wire guide and 4 driven rolls for positive wire feeding.

- Presettable voltage and wire feed speed for extra control.
- Standard dual procedure.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Required Options

Gun and Cable Assembly, Drive Roll Kit, Control Cable, Weld Power Cable

Recommended General Options

Dual Procedure Switch, Remote Interface Kit, Dual Procedure/Remote Control Pendant, 42 Volt Transformer Kit, Spindle Adapter, Readi-Reel® Adapter, Coil Adapter, Wire Cover, Water Connection Kit, Gas Guard Regulator

Recommended Power Source Options

CV-250, CV-300, CV-400, CV-655, Invertec® V350-PRO, DC-400, DC-600, DC-655

Order

- K1499-3 Bench
- K1499-4 Bench (High-Speed)
- K1521-7 Generic Boom

Literature

E8.200

Product Name	Product Number	Wire Feed Speed Range ipm (m/min)	Wire Size Range in. (mm)		Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
			Solid	Cored		
DH-10 (Std./Std. Speed)	K1499-3 K1521-7	35-750 (0.8-19.0)	.023 -3/32 (0.6-3.0)	.030-1/8 (0.8-3.2)	21 x 20 x 32 (521 x 502 x 800)	98 (44.4)
DH-10 (Std./High Speed)	K1499-4	Std: 35-750 (0.8-19.0) High: 55-1250 (1.3-31.7)	.023-3/32 (0.6-3.0) .023-1/16 (0.6-1.6)	.030-1/8 (0.8-3.2) .035-5/64 (0.9-3.0)		

STT-10



The sophisticated STT-10 Process Controller was designed specifically to work with the revolutionary STT II power source. Its microprocessor controls make the STT-10 easy to develop optimal procedures and set the range of operator adjustments. The STT-10 takes an active role in controlling the power source with a dual procedure control that can increase or decrease the energy in the arc without changing the wire feed speed.

Processes

MIG-STT®

Advantage Lincoln

- Presettable background and peak current settings for optimum starting performance.
- Split wire guide and four driven rolls for positive feeding.
- Modular design for many mounting options.
- Range control keeps procedures in the "sweet spot".
- Four step trigger for "cruise control" on long welds and hard automation.

- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Required Options

Gun and Cable Assembly, Drive Roll Kit, Control Cable, Weld Power Cable

Recommended General Options

Robotic Interface, Remote Switch Interface, Dual Procedure Switch, Spindle Adapter, Readi-Reel® Adapter, Coil Adapter, Wire Cover, Insulated Lift Bail, Light Duty Caster Kit, 42 Volt Transformer Kit, Gas Guard Regulator

Recommended Power Source Options

STT II

Order

K1560-2

Literature

E8.190



Product Name	Product Number	Wire Feed Speed Range ipm (m/min)	Wire Size Range in. (mm) Solid	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
STT-10	K1560-2	35-500 (0.8-12.7)	.023 - .052 (0.6-1.4)	16 x 15 x 31 (406 x 381 x 787)	65 (29.5)

Power Feed™ 10



The Power Feed 10 wire feeder is revolutionary for its ease of use and flexibility. Designed to maximize the capabilities of the Power Wave 455, the combination of high-tech power source and wire feeder, out perform traditional arc welding methods. The Power Feed 10's design allows the control box to be placed anywhere – near the work piece or on top of the power source.

Processes

MIG, Pulsed, MIG-STT®, Flux-Cored

Advantage Lincoln

- Split wire guide system.
- Four driven rolls.
- Easily upgraded control panels.
- Powerful drive motor for large wire and high speeds in one model.
- Tachometer feedback for precise wire feeding.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.



Required Options

Gun and Cable Assembly, Drive Roll Kit

Recommended General Options

Dual Procedure Panel, Welding Mode Panel, Spindle Adapter, Readi-Reel® Adapter, Coil Adapter, Wire Cover, Water Connection Kit, Gas Guard Regulator, Insulated Lift Bail, Light Duty Cast Kit, Swivel Platform

Recommended Power Source Options

Power Wave® 355, Power Wave 455, Power Wave 455/STT

Order

- K1541-2 Bench
- K1538-4 Generic Boom

Literature

E5.160

Product Name	Product Number	Wire Feed Speed Range ipm (m/min)	Wire Size Range in. (mm)		Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
			Solid	Cored		
Power Feed 10	K1541-2 K1538-4	50-1200 (1.2-30.5)	.023 -3/32 (0.6-2.4)	.035-1/8 (0.9-3.0)	18.5 x 13.5 x 30.5 (470 x 343 x 775)	62 (28.1)

Power Feed™ 10 Dual



The Power Feed 10 Dual is designed for shops that require welding flexibility and superior welding performance in one complete wire feeder package. Dual feeder means you can put two different types of wire on the feeder, allowing you to weld steel, stainless or aluminum from one power source. Combine this wire feeder flexibility with one of Lincoln's new Power Wave power sources, and you will be able to MIG weld, STT weld or Pulse weld with ease.

Processes

MIG, Pulsed, MIG-STT®, Flux-Cored

Advantage Lincoln

- Split wire guide system.
- Four driven rolls.
- Easily upgraded control panels.

- Powerful drive motor for large wire and high speeds in one model.
- Tachometer feedback for precise wire feeding.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Required Options

Gun and Cable Assembly, Drive Roll Kit

Recommended General Options

Dual Procedure Panel, Welding Mode Panel, Spindle Adapter, Readi-Reel® Adapter, Coil Adapter, Wire Cover, Water Connection Kit, Gas Guard Regulator, Insulated Lift Bail, Light Duty Caster Kit

Recommended Power Source Options

Power Wave® 355, Power Wave 455, Power Wave 455/STT

Order

- K1686-1 Bench
- K1683-1 Generic Boom

Literature

E5.160

Product Name	Product Number	Wire Feed Speed Range ipm (m/min)	Wire Size Range in. (mm)		Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
			Solid	Cored		
Power Feed 10 Dual	K1686-1 K1683-1	50-1200 (1.2-30.5)	.023 - 3/32 (0.6-2.4)	.035-1/8 (0.9-3.0)	20 x 23 x 34 (508 x 584 x 864)	106 (48)

Power Feed™ 15M



The Power Feed 15M is a compact wire feeder designed for field construction, pipelines, offshore and shipyard applications where portability, ruggedness and arc performance are demanded. It is the only wire feeder on the market that is both digital and portable for high-speed, reliable performance in a lightweight, maneuverable unit. A sturdy stainless steel case provides durability in harsh environments. Accommodates a lightweight (10-15 lb. [4.5-5.8kg]) 8-inch diameter spool for portability around the job site. The Power Feed 15M is designed to work exclusively with Lincoln's Power Wave® power sources, which feature Waveform Control Technology® for ultimate arc control and performance.

Processes

MIG, Pulsed, MIG-STT®, Flux-Cored

Advantage Lincoln

- The Power Feed 15M/Power Wave welding systems come pre-loaded with over 60 standard welding programs that provide optimal bead appearance, penetration and travel speed in various welding applications.
- Ideal for a variety of materials and applications, including steel, stainless steel, aluminum, nickel alloys and others.

- Weld programs are selected at the wire feeder, rather than the power source, so you can make all procedure adjustments at the feeder.
- Rugged construction – all corners are double-walled and control panels are recessed for durability and protection against damage.
- Built-in bottom and side runners/skids make the feeder easy to drag without damaging the case.
- The Power Feed 15M is designed to operate exclusively with the Power Wave® power sources. The system utilizes Waveform Control Technology and digital communication to provide the best welding arc control and performance.
- Power Feed 15M operates with either ArcLink or Linc-Net Power Wave power sources.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Required Options

Gun and Cable Assembly, Drive Roll Kit, Control Cable, Weld Power Cable

Recommended General Options

Feed Plate Gun Receiver Bushings

Recommended Power Source Options

Power Wave® 355, Power Wave 455, Power Wave 455/STT

Order

K2196-1 Power Feed 15M

Literature

E8.270

Product Name	Product Number	Input Power	Output Capacity Current / Duty Cycle	Wire Feed Speed Range	Wire Size Range ipm (m/min)		Dimensions H x W x D Inches (mm)	Net Weight lbs. (kg)
				ipm (m/min)	Solid	Cored		
Power Feed 15M	K2196-1	40 VDC	500A/60% 350A/100%	High Speed: 50-700 (1.3-17.8) Low Speed: 50-400 (1.3-10.2)	.023 - .052 (0.6-1.3)	.035-5/64 (0.9-2.0)	11 x 8.2 x 23.2 (279 x 208 x 589)	28 (12.7)

Boom Ready Wire Feeder Packages



Lincoln has taken the guesswork out of boom setup. A wide variety of “Boom Ready” wire feeder packages have been created with your needs in mind. They are designed to provide the items needed (wire drive and control box assemblies, cables, hoses, etc.) to get your boom welding system running quickly and efficiently. These “Boom Ready” packages include everything needed to easily setup your welding equipment to a standard welding boom system.

Recommended Equipment

Generic boom ready wire feeder packages can be used with most compatible DC power sources.

The following Lincoln Electric wire feeders are compatible and recommended for boom packages:

LN-10, DH-10, Power Feed 10 and Power Feed 10 Dual

LN-10		DH-10		Power Feed 10 Power Feed 10 Dual
CV-250	DC-400	CV-250	DC-400	Power Wave 355
CV-300	DC-600	CV-300	DC-600	Power Wave 455
CV-400	DC-655	CV-400	DC-655	Power Wave 455/STT
CV-655	DC-1000(1)	CV-655	DC-1000(1)	
Invertec V350-PRO		Invertec V350-PRO		

(1) Requires 42V Transformer Kit.

LN-15



Output

The LN-15 is one of the smallest and most maneuverable wire feeders for the construction, shipbuilding and pipeline industries available on the market today. Through the use of a high temperature, abrasion resistant plastic case, aluminum alloy roll cage and fully encapsulated PC boards, the LN-15 is perhaps the most rugged, portable wire feeder in the world. The LN-15 is available in both Across-The-Arc and Control Cable versions. Both offer outstanding welding performance, including pulse welding, on a wide variety of steel, stainless steel, aluminum and alloy materials.

Processes

MIG, Pulsed, MIG-STT(1), Flux-Cored

Advantage Lincoln

- Both models are designed for MIG, Pulse MIG, Flux-Cored and Metal-Cored welding processes using light-weight 8" diameter spools. The Control Cable version is also designed for the STT (Surface Tension Transfer) process.
- Rugged patented wire drive system easily feeds .023-.052" solid and .035-5/64" cored wires.
- Illuminated digital meters are easy to read in adverse lighting conditions.

(1) Control Cable model only.

(2) Recommended for LN-15 Across-The-Arc model only.

- Fully enclosed molded case is heat, spatter and impact resistant.
- Double latch case seals tight to protect drive system and wire from dirt, dust and rain.
- Full body aluminum roll cage provides sturdy impact protection and all-around handles for easy portability.
- Adjustable carrying strap makes it easy to carry and hang.
- Compact unit fits easily through 14" (355mm) diameter manhole/manway.
- Trigger interlock allows welding to continue when trigger is released for comfort on long welds.
- Internally mounted adjustable gas flow valve/meter.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Base Unit Includes

- Gun Receiver Bushing (K1500-2)
- Carrying Strap
- Spindle Adapter for 8 in. O.D. Spools
- Standard Contactor with Across-The-Arc Model

Required Options

Gun and Cable Assembly, Drive Roll Kit, Control Cable(1), Weld Power Cable

Recommended General Options

Gun Receiver Bushing, 14-Pin Control Cable Extension, Terminal Strip Adapter Cable, Spindle Adapter for 8" O.D. Spools

Recommended Power Source Options

Ranger™ 10,000(2), Ranger 3 Phase(2), Ranger 250(2), Ranger 250 LPG(2), CV-250, CV-300, CV-400, CV-655, Invertec® V350-PRO, DC-400, DC-600, DC-655, Invertec STT II

Order

K1870-1 LN-15 Wire Feeder – Across-The-Arc

K1871-1 LN-15 Wire Feeder – Control Cable

Literature

E8.60

Product Name	Product Number	Input Power	Output Capacity Current/ Duty Cycle	Wire Feed Speed Range ipm (m/min)	Wire Size Range in. (mm)		Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
					Solid	Cored		
LN-15 Across- The-Arc	K1870-1	15-110 VDC	300A/60%	50-700 (1.3-17.8)	.023-.052 (0.6-1.3)	.035-5/64 (0.9-2.0)	12.7 x 8.7 x 23 (356 x 188 x 533)	30 (15.4)
LN-15 Control Cable	K1871-1	42 VAC	500A/60%					28 (12.7)

LN-23P



Output

The LN-23P semiautomatic wire feeder is able to handle the toughest work sites and is an excellent choice for field erection and pipe welding applications. It is portable, easy to set-up, and ideal for reaching difficult locations. The LN-23P utilizes special lightweight 14 lb. (6.35 kg) Innershield (FCAW-S) coils, making it extremely easy to carry around the job site, and has a built-in dual wire feed speed switch for out-of-position welding.

Processes

Innershield (FCAW-S)

Advantage Lincoln

- Weighs less than 50 lbs. (22.7 kg) including optional Magnum® Innershield® gun and 14 lb. (6.3 kg) coil of electrode.
- Continuous wire feed speed control, voltage control and analog voltmeter are standard.
- Completely enclosed wire reel keeps the wire free of contaminants.

- Equipped with trigger interlock circuit to reduce operator fatigue.
- One or two LN-23P wire feeders can be directly connected to recommended Lincoln power sources, but only one can be used at a time.
- Gun-mounted two-position switch allows on-the-fly change to 83% of the preset wire feed speed.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Base Unit Includes

- 25 ft. (7.6m) Control Cable
- 25 ft (7.6m) 1/0 Weld Power Cable
- Drive Roll Kit

Required Options

LN-23P Adapter Kit (K350 or K350-1),
Magnum Self-Shielded Gun (K355-10 or K345-10)

Recommended Power Source Options

CV-655, DC-400, DC-600, DC-655

The Following Require Wire Feed Module or CV Adapter:

Classic® II, Classic 300G, Classic 300D, SAE-400,
SAE-400 Weld 'N Air

Order

K316L-1 LN-23P Wire Feeder

Literature

E8.90

Product Name	Product Number	Input Power	Output Capacity Current/ Duty Cycle	Wire Feed Speed Range ipm (m/min)	Wire Size Range in. (mm)	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
LN-23P Across-The-Arc	K316L-1	14-50V DC (90V DC Max. OCV) and 115 AC	350A/60%	30-170 (0.76-4.3)	.068-5/64 (1.7-2.0)	20.5 x 9 x 19 (520 x 230 x 480)	27 (12.3)

LN-25



Output

The LN-25 semi-automatic wire feeder is ideal for field or construction use. Since it is powered across the arc, no control cables are needed! Simply connect the weld cable, attach the welding clip, and you're ready to go. The fully enclosed case ensures that this portable MIG and flux-cored feeder can tough out any work site. This portable unit is designed for MIG or flux-cored wire feeding. The totally enclosed case accepts 10-44 lb. (4.5-19.9 kg) wire packages for welding versatility. The LN-25 features a tool-less quick release mechanism for easy wire changing.

Processes

MIG, Flux-Cored

Advantage Lincoln

- For MIG and flux-cored arc welding processes using up to 44 lb. (19.9 kg) spools.
- Designed for .023-1/16" (0.6-1.6mm) solid, .035-5/64" (0.9-2.0mm) cored and .035-1/16" (0.9-1.6mm) aluminum wire sizes.
- Selectable dial for setting low range 50-350 ipm (1.3-8.9m/min) wire feed speed or high range 50-700 ipm (1.3-17.8m/min) wire feed speed.

- Includes DC voltmeter, voltmeter polarity switch and 15 ft. (4.6m) voltage sensing lead and clip.
- For use with Magnum® flux-cored guns and MIG guns.
- Dynamic braking system stops wire feed motor quickly to minimize wire overrun.
- Automatic overvoltage and motor overload shutdown protection.
- Tool-less quick release wire drive tension system and gun cable connections for easy wire or gun changes.
- Fully enclosed molded case meets UL94-V0 flammability resistance and is heat, spatter, and impact resistant.
- Case has double latches for easy access to wire and includes an insulated gun holder.
- Entire unit is compact and portable and will pass through a 16" (400mm) diameter manway.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Required Options

Gun and Cable Assembly, Drive Roll Kit, Weld Power Cable

Recommended General Options

Remote Control Kits, Remote Control Cables, Gas Solenoid Kit, Gas Flow Timer Kit, Internal Contactor Kit, Jumper Plug Kit, Spindle Adapters

Recommended Power Source Options

All Electric or Engine Driven Welders with CV capability

Order

K428

K449 (w/ Internal Contactor and Gas Solenoid)

Literature

E8.100

Product Name	Product Number	Input Power	Output Capacity	Wire Feed Speed Range ipm (m/min)	Wire Size Range in. (mm)		Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
			Current/Duty Cycle		Solid	Cored		
LN-25 Across-The-Arc	K449	15-40V DC (110V DC Max. OCV)	up to 300A/60%	50-700 (1.2-17.7)	.023-1/16 (0.6-1.5)	.035-5/64 (0.9-2.0)	14 x 7.4 x 21 (356 x 188 x 533)	35 (15.4)
	K428		up to 500A/60%					28 (12.7)

LN-35

NEW!



Output



The LN-35 is an across-the-arc, semiautomatic wire feeder for hardfacing and fabrication applications using self-shielded, flux-cored welding electrodes. Complete with wire reel stand for up to 60 lb. (27.2 kg) coils, the LN-35 is designed for maximum versatility and portability in a variety of field applications. Wire feeding performance is backed with a dynamic braking system that stops the wire feed motor quickly to minimize wire overrun. This wire feeder is easy to use, with a large wire feed speed knob that is easy to adjust with gloved hands.

Processes

Flux-Cored(1)

Advantage Lincoln

- The LN-35 is designed to feed .035 - 7/64" (0.9 - 2.8mm) flux-cored electrodes.
- Enhanced starting control for smooth arc starting in CV mode.
- Electronic circuits protect wire feeder from overload.

(1) Self-Shielded Wires Only.

- Adjustable wire feed speed for settings of 50-500 ipm (1.3 – 12.8m/min.).
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Base Unit Includes

- Wire Reel Stand with 1" Spindle
- Coil Adapter
- Case

Recommended General Options

Gun and Cable Assembly, Weld Power Cable

Recommended Power Source Options

CV-400, CV-655, DC-400, DC-600, DC-655

Order

K2281-1 LN-35

Literature

E8.110

Product Name	Product Number	Input Power	Output Capacity Current/Duty Cycle	Wire Feed Speed Range ipm (m/min.)	Wire Size Range in. (mm) Cored	Dimensions H x W x D inches (mm)	Net Weight lbs. (kg)
LN-35 Across-The-Arc	K2281-1	15-40V DC Max OCV: 110V DC	500A/60%	50-500 (1.2-12.7)	.035 - 7/64 (0.9 - 2.8)	27.0 x 10.0 x 30.0 (686 x 254 x 762)	82 (37)

NOTE:

A constant voltage (CV) power source is recommended for self-shielded, flux-cored arc welding (FCAW-S). The LN-35 may be used with a constant current (CC) power source for non-critical applications where weld quality and deposition properties are not critical.

Cobramatic[®]

Semiautomatic Wire Feeder



"We took a vote and the winner hands down was the Cobramatic[®] wire feeder package provided by Lincoln Electric. Since the start-up with the Lincoln system, we did not experience any of the typical problems associated with aluminum welding such as tangling and burnthrough."

Brett Baer,
Welding Coordinator
Musco Lighting, Inc.

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THE WELDING EXPERTS

www.lincolnelectric.com

Cobramatic®



The Cobramatic® push-pull wire feeding system is a great example of Lincoln's MIG welding expertise. The Cobramatic incorporates a push-drive system that virtually eliminates the problems associated with wire feeding. This unique master-slave drive system prevents tangling and damage to the wire, resulting in increased weld quality and productivity. Combine that with some great new features that make set-up easier and adjustments virtually unnecessary, and the Cobramatic is a great MIG welding choice for all wire types.

Processes

MIG, Pulsed

Advantage Lincoln

- Push-pull wire drive system yields reliable, consistent, trouble-free wire feeding up to 50 ft. (15.2m) from the cabinet.
- Compatible with complete line of Lincoln push-pull guns.
- Feeds aluminum wire from diameters .030-1/16" (0.8-1.6mm) with only a contact tip change.

- Patented paddle holds wire straight and level during feeding to minimize damage to the wire.
- Patented clutch/brake system keeps wire from over running on shut-off.
- Tool-less spool brake adjustment knob allows for easy tension adjustment.
- Simplified wire tension adjustment using two position steel/aluminum selector for foolproof operation.
- Three-year manufacturer's limited warranty.

Required Options

Prince® XL, CobraMAX™, or Python® push-pull guns

Recommended Power Source Options

CV-250, CV-300, CV-400, CV-655, V350-PRO, DC-400, DC-600, DC-655

Order

K2259-1 Cobramatic

Literature

E8.300

NOTE: Cobramatic®, CobraMAX™, Prince® XL and Python® are registered trademarks of MK Products, Inc.

Product Name	Product Number	Input Power	Output Capacity(1) Current/ Duty Cycle	Wire Feed Speed Range ipm (m/min)	Wire Size Range in. (mm)		Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
					Solid	Cored		
Cobramatic	K2259-1	42 VAC	400A / 100%	0-800 Max. (0-20.3)	.030-1/16 (0.8-1.6)	.030-1/16 (0.8-1.6)	14.8 x 9.5 x 19.3 (376 x 241 x 490)	42 (19.0)

(1) With appropriate gun.

NA-3, NA-4 and NA-5



Show with options

Output



Input



Improve productivity with the NA-3, NA-4 or NA-5 automatic wire feeders. These systems have been specially designed to deposit more weld metal at faster travel speeds which eliminates bottlenecks and cuts costs. Used for heavy duty fabrication and assembly line production, these units feature solid state controls for precise control of welding procedures – even to the most exacting requirements. Trust Lincoln automatic welding systems for worry-free operation!

Processes

MIG, Flux-Cored, Submerged Arc

Advantage Lincoln

- Solid state controls allow for precise control of welding procedures, striking characteristics, as well as bead size and shape.

- Easily adjusted for a wide range of processes, feed speeds, and wire sizes.
- Compact units with excellent flexibility to fit into simple fixtures or the most complex automated production lines.
- Rugged construction minimizes downtime and maintenance costs.
- Manufactured under a quality system certified to ISO 9001 requirements.
- Three-year warranty on parts and labor.

Required Options

Nozzle Assembly, Control Cable, Weld Power Cable

Recommended General Options

Gas Solenoid, TC-3 Travel Carriage, Vertical Adjuster, Horizontal Adjuster

Recommended Power Source Options

NA-3 & NA-5: CV-655, DC-600, DC-655, DC-1000, DC-1500

NA-4: AC-1200

Literature

E9.10, NA-3, NA-4
E9.30, NA-5

Product Name	Wire Feed Speed Range ipm (m/min)	Wire Size Range - in. (mm)	
		Solid	Cored
NA-3	25-650 (0.6-16.5)	1/16-7/32 (1.6-5.6)	.035-5/32 (0.9-4.0)
NA-4	subject to arc voltage used	1/16-7/32 (1.6-5.6)	----- -----
NA-5	25-775 (0.6-16.5)	.035-7/32 (0.9-5.6)	.045-5/32 (1.2-4.0)

LT-7 Tractor



Track Model shown



The LT-7 Tractor is a self-propelled mechanized wire feeder, designed for the submerged arc process with track system capabilities. It is self-guiding and easy to operate – only one operator is usually required. It is designed to be used with a variety of Lincoln DC constant voltage and constant current power sources. The rugged, lightweight unit permits quick movement to the next joint. Its compact size fits through small openings and confined spaces. Butt and fillet welds can be made on heavy plate or steel as light as 12 gauge (2.5mm). The LT-7 Tractor is ideal for the following applications: ship and barge building, storage tank erection, bridge deck installation, beam, girder or column fabrication, and long seams on heavy weldments.

Processes
Submerged Arc

Advantage Lincoln

- LT-7 Tractor feeds 3/32 to 3/16" (2.4 to 4.8 mm) solid wires, from 100 - 400 inches per minute (2.5 - 10.2 m/min) wire feed speed.
- Calibrated tractor drive adjusts travel speeds from 6 to 70 inches per minute (0.12 to 1.8 m/min).
- Vertical head lift adjuster for adjusting electrical stickout from 1/2 in. to 5 in. (12.7 to 127.0 mm).

- Weld angle is up to 50° from vertical on either side; drag angle is up to 30° from vertical.
- Control box is conveniently located on the tractor (can be mounted either left or right), eliminating the need to return to the power source for routine procedure changes.
- Exceptional tracking control and self-steering in most applications leave the operator free for quality control, joint cleaning and flux handling.
- Welds butts, horizontal fillet and lap joints to the left or right side of the tractor frame for convenience.
- Close mechanical alignment between wire and joint maximizes weld quality with no fixturing costs.
- Three-year warranty on parts and labor.

Required Options

Nozzle Assembly, Control Cable, Weld Power Cable

Recommended General Options

Track Conversion Kit, Track Sections, Linc-Fill™ Attachments, Concentric Flux Cone Assembly, Horizontal Fillet and Lap Adapter Kit, Flat Fillet Adapter Kit, Butt Seam Guide Kit, Tiny Twinarc® Adapter Kit, Magnetic Separator, Flux Screen.

Recommended Power Source Options

CV-655, DC-600, DC-655, DC-1000, DC-1500

Order

K227-1 LT-7 Standard Model
K395-1 LT-7 Track Model

Literature

E9.70

Product Name	Product Number	Input Power	Output Capacity Current/Duty Cycle	Wire Feed Speed Range ipm (m/min)	Wire Size Range Solid in. (mm)	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
LT-7 Standard	K227-1	115 VAC 50/60 Hz	600A/100% 1100A/100% (with water cooling)	100 - 400 (2.5 - 10.2)	3/32 - 3/16" (2.4 - 4.8)	27.5 x 33 x 14 (698 x 838x 356)	120 (54)
LT-7 Track	K395-1						130 (59)

Pro-Cut[®]

Plasma cutters



"With the Pro-Cut[®], we are able to make clean cuts that are ready to weld without additional prep work. We can make the cut and then immediately fit it into place to weld . . . which is a real time saver."

*Richard J. Esswein,
Vice President of Sales
Penn Perry, Inc.*

LINCOLN[®]
ELECTRIC
THE WELDING EXPERTS

www.lincolnelectric.com

Pro-Cut® 25



Output **CC** **DC** Input **1** **50/60**
PHASE Hz

The Pro-Cut 25 is one of the best examples of how portable and easy to use today's plasma cutters can be. It combines the next generation of plasma technology and enough power to easily cut 3/8" (9.5mm) mild steel in a package that weighs only 29.5 lbs. (13.4 kg). The power source automatically reconnects between 115V or 230V for easy set-up. This further extends the flexibility of this plasma unit. HVAC and autobody companies will find the Pro-Cut 25 especially easy to use with its back lit LED status lights, 15 ft. (4.5m) plasma torch, and integral air controls.

Processes

Air Plasma Cutting, Gouging

Advantage Lincoln

- 25 amps of cutting power from only a 29.5 lb. (13.3kg) package (without cables) for competitive performance on materials up to 3/8" thick.
- 60% duty cycle at maximum output assures generous high end capacity when connected to 230V.

- Patented PCT 20 torch with VORTECH™ technology consumables for unmatched cutting speed and precision.
- Long consumable life.
- Standard air pressure regulator with gauge.
- Automatic re-connection between 115V and 230V for easy power connect and portability.
- Back-lit LED system for status indicators. Eliminates confusion yet conveys all the information necessary to monitor power source readiness.
- Two-year warranty on parts and labor. (1 year warranty on torch.)

Base Unit Includes

- PCT 20 Hand Torch, 15 ft.
- Work lead and clamp
- Spare consumables

Recommended General Options

Combination Circle Cutting Kit, Suction Pivot, Replacement Bushing

Order

K1756-1 Pro-Cut 25 115/230/1/50/60

Literature

E11.51

Product Name	Product Number	Input Power	Rated Output Current/ Duty Cycle	Input Current @ Rated Output	Pilot Current	Output Range	Air Pressure Required	Air Flow Rate	Dimensions H x W x D in. (mm)	Net Weight w/Torch lbs (kg)
Pro-Cut 25	K1756-1	115/1/50/60	25A/35%(1) 20A/60%	37.7A 26.7A	12A	12-25A	65 PSI	240 SCFH	10.2 x 6.3 x 16.1 (260 x 160 x 410)	29.5 (13.4)
		230/1/50/60	25A/60% 20A/100%	19A 15A						

(1) Full output current requires use of 25 amp branch circuit and plug (supplied).

Pro-Cut[®] 55



The Pro-Cut 55 is the first plasma cutting unit to combine the highest cutting performance available in the industry, up to 3/4" (19.0mm), with a design that supports the highest level of portability and sets a new standard for ease of use. The Pro-Cut 55 power source incorporates "dual winding technology" which makes this plasma cutting unit the easiest to use in the industry. This technology provides for a cutting arc that transfers quickly and forcefully to the work piece. This means that you set up the cutting arc and get through the work piece faster for easy starts and lower dress levels at the start. This technology also provides for unparalleled gouging performance in a unit of this size.

Processes

Air Plasma Cutting, Gouging

Advantage Lincoln

- 60 amps of power for world class performance up to 3/4" (19.0mm) in only a 55 lb. (25.0kg) package.
- Patented PCT 80 torch and VORTECH™ technology consumables for unmatched cutting speed and capacity.
- Patented full-flow cooling for long consumable life.

- Can operate off of most Lincoln engine driven welders for ultimate portability.
- New drag cup design provides best nozzle protection and easy drag cutting.
- Dual winding technology for fast arc transfers, excellent gouging performance and unparalleled ease of use.
- Back-lit LED system for status indicators eliminates confusion yet conveys all the information necessary to monitor the power source readiness.
- "Valet Style" undercarriage available for the ultimate in power source portability.
- Three-year warranty on parts and labor (1 year warranty on torch).

Base Unit Includes

- PCT 80 Torch
- Work lead and clamp
- Spare consumables

Recommended General Options

Undercarriage, Combination Circle Cutting Kit, Suction Pivot, Replacement Bushing, Torches

Order

- K1580-1 w/ 25 ft. torch 208/230/460/1/3/60
- K1580-2 w/ 50 ft. torch 208/230/460/1/3/60
- K1580-3 w/ 25 ft. torch 460/575/3/60
- K1580-4 w/ 50 ft. torch 460/575/3/60
- K1601-1 w/ 25 ft. torch 200/380-415/3/50
- K1601-2 w/ 50 ft. torch 200/380-415/3/50

Literature

E11.60

Product Name	Product Number	Input Power	Rated Output Current/ Duty Cycle	Input Current @ Rated Output	Pilot Current	Output Range	Air Pressure Req'd	Air Flow Rate	Dimensions H x W x D in. (mm)	Net Weight w/Torch lbs (kg)
Pro-Cut 55	K1580-1	208/230/460/1/3/60	55A/50%	1-ph, 50%: 60/55/30A	18A	25-60A	70 PSI	360 SCFH	12.6 x 11 x 26 (320 x 279 x 660)	55 (25)
	K1580-2		40A/100%	1-ph, 100%: 44/40/23A						
	K1580-3	460/575/3/60	55A/50%	3-ph, 50%: 31/28/17A						
	K1580-4		40A/100%	3-ph, 100%: 23/21/15A						
	K1601-1	200/380-415/3/50	55A/50%	17/14A						
	K1601-2		40A/100%	15/12A						

Pro-Cut[®] 80



Output **CC** **DC** Input **1/3** **60** **50**
PHASE Hz Hz

The Pro-Cut 80 exhibits serious cutting prowess with a full 85 amps of power, slicing through metal up to 1-1/4 in. (31.7mm) thick with ease! Using six patented technologies, the unit is perfect for maintenance, fabrication or other applications which require cutting of thicker metals. The machine weighs only 95 lbs. (43.0kg) and its "valet style" undercarriage provides portability on the job site.

Processes

Air Plasma Cutting, Gouging

Advantage Lincoln

- 85 amps of power for world class performance up to 1-1/4 in. (32mm).
- Patented PCT 80 torch and VORTECH™ technology consumables for unmatched cutting speed and capacity.

- Patented full-flow cooling for long consumable life.
- Built-in CNC/Robotic interface.
- Dual winding technology for fast arc transfers, excellent gouging performance and unparalleled ease of use.
- Back-lit LED system for status indicators eliminates confusion yet conveys all the information necessary to monitor the power source readiness.
- Three-year warranty on parts and labor. (1 year warranty on torch.)

Base Unit Includes

- PCT 80 Torch
- Work lead and clamp
- Spare consumables

Recommended General Options

Undercarriage, Combination Circle Cutting Kit, Torches, Suction Pivot, Replacement Bushing

Order

K1581-1	w/ 25 ft. torch	208/230/460/1/3/60
K1581-2	w/ 50 ft. torch	208/230/460/1/3/60
K1581-3	w/ 25 ft. torch	460/575/3/60
K1581-4	w/ 50 ft. torch	460/575/3/60
K1677-1	w/ 25 ft. torch	220/380/415/3/50
K1677-2	w/ 50 ft. torch	220/380/415/3/50

Literature

E11.70

Product Name	Product Number	Input Power	Rated Output Current/ Duty Cycle	Input Current @ Rated Output	Pilot Current	Output Range	Air Pressure Required	Air Flow Rate	Dimensions H x W x D in. (mm)	Net Weight lbs (kg)
Pro-Cut 80	K1581-1	208/230/460/ 1/3/50/60	80A/60% 65A/100%	1-ph: 96/87/48A 3-ph: 47/44/25A	18A	35-85A	70 PSI	480 SCFH	13.7 x 16.5 x 29.5 (348 x 419 x 749)	98 (44.5)
	K1581-2									113 (51.4)
	K1581-3	460/575/3/60		98 (44.5)						
	K1581-4			113 (51.4)						

Low Vacuum Solutions



ProSource LV™ extraction arms position easily to provide high air flow extraction for a variety of applications. These 8 in. (203mm) diameter arms and maintenance saving filter systems combine the finest features in the industry with the best value. The lightweight arms position easily and hold their place without drifting. Versatility is a plus with the 360 degree rotatable hood, which can be fitted with a lamp kit and an arc sensor that activates the fan when sensing the arc flash. 10 ft. (3.0m) or 13 ft. (3.9m) arms are available for both mobile and wall mounted systems.

LFA3.1 and LFA4.1 Arms

- Spring balanced for easy positioning.
- 10 or 13 ft. lengths.
- 360 degree rotatable hood.

Mobiflex 200M and 400-MS

- Uses 10 or 13 ft. Arms.
- Optional Lamp Kit and Arc Sensor.
- Auto filter cleaning with 400-MS

Ordering Information

K1653-2 Mobiflex 200M base unit K1741-1
Mobiflex 400-MS base unit

K1655-1 LFA3.1 Arm, 10 ft.

K1655-2 LFA4.1 Arm, 13 ft.

K1655-3 LTA 2.0 Telescopic Arm, 3-4.5 ft.

K1656-1 SF2400 Fan, 120V, 60 Hz

K1654-1 Statiflex 200M Wall
Mounted Filter Unit

K1742-1 Statiflex 400-MS

See publication E13.40 for information on products to complete your low vacuum package, including:

Lamp Kits

Automatic Stop/Start Arc Sensor

7 ft. and 14 ft. Extension Cranes

Mobiflex 100NF Portable Fan

Statiflex 6000-MS



For centralized filtration, choose the Statiflex 6000-MS Central Filter Unit. With a capacity of 3750 CFM (6375 m³/hr), the Statiflex 6000-MS can provide filtration for up to five extraction arms in use at one time.

Advantage Lincoln

- Two generously sized filter cartridges, totaling 1400 ft².
- Maximum airflow of 3,750 CFM.
- For five extraction arms or more, if using the automatic start/stop sensor.
- Automatic filter cleaning.
- 99.8% efficiency.
- Also for large hoods or downdraft tables.

Call the Lincoln Electric Automation Division at 216.383.2667 for more information.

High Vacuum Solutions



X-Tractor High Vacuum Systems capture the fume right at the arc – before it reaches the operator's breathing zone. Connect fume extraction guns or suction heads with small diameter hose to portable, mobile or central systems for economical fume control. The X-Tractor 1GC is an excellent example of a portable and mobile system.

X-Tractor 1GC

- Lightweight and portable (38 lbs.)
- Cleanable/reusable filter.
- Unique, low mess filter cleaning system.
- Start/Stop current sensor.

Ordering Information

K652-1	X-Tractor 1GC (120V)
K652-2	X-Tractor 1GC (230V)

Hose, guns and suction heads ordered separately:

S19947-9	10 ft. hose
S19947-5	16 ft. hose
S19947-10	25 ft. hose
K639-x ⁽¹⁾	Various suction heads
K566-x ⁽¹⁾	250XA fume guns
K556-x ⁽¹⁾	400XA fume guns

⁽¹⁾See publication E13.10 for more information.



Robots and Custom Cells

ROBOTS



Robotic Systems and Custom Cells

Combine Lincoln's industry leading welding and cutting expertise with the most recognized name in robotics, FANUC, and you have a great robotics solution regardless of your application. We have the ability to seamlessly integrate all aspects of the automated welding/cutting process, from analysis to custom and pre-engineered cells, to software, service and training.

Pre-Engineered Systems

You need a time-proven, economical system that's delivered on time and ready for the production line. Lincoln offers more than a dozen "drop-in-place" pre-engineered solutions. System designs include:

- Fixed tables
- Rotary index tables
- Dual head and tail stock
- H-frame/dual headstocks
- Ferris wheel
- Swing tables

Custom Robotic Solutions

From concept to design and build, Lincoln's automation engineers work closely with you to understand your manufacturing needs. Correct synergy, creative positioning design and production efficiency are all critical to producing repeatable, high quality, high volume solutions.

COMPLETE SINGLE SOURCE ROBOTIC SOLUTIONS

- Welding applications evaluation
- Robot feasibility testing
- Sample part welding
- Computer robot simulations
- Return on investment calculations
- Complete system design and build
- Pre-engineered systems
- Custom designed systems
- 24 hour hotline assistance
- Operator training
- Robot repair/rebuild
- In-the-field service support
- In-plant start-up assistance
- Emergency welder/robot part delivery
- Long-term preventative maintenance programs

Robots and Custom Cells

TYPICAL ROBOT ARM SELECTION:

ARC Mate 50iB/3L

- 3 kg (6.6 lbs.) wrist loading capacity
- 6 axes controlled motion
- 856mm (33.7 in.) reach
- 320 degree work envelope
- Repeatability $\pm .04$ mm ($\pm .0015^{\circ}$)

ARC Mate 100iB

- 5 kg (11 lbs.) wrist loading capacity
- 6 axes controlled motion
- 1373mm (54.0 in.) reach
- 340 degree work envelope
- Repeatability $\pm .08$ mm ($\pm .003^{\circ}$)

ARC Mate 100i-6S

- 5 kg (11 lbs.) wrist loading capacity
- 6 axes controlled motion
- 950mm (37.4 in.) reach
- 400 degree work envelope

ARC Mate 120iB/10L

- 10 kg (22.4 lbs.) wrist loading capacity
- 6 axes controlled motion
- 1885mm (74.0 in.) reach
- 340 degree work envelope
- Repeatability $\pm .10$ mm ($\pm .004^{\circ}$)

ARC Mate 120iLT

- 10 kg (22.4 lbs.) wrist loading capacity
- 6 axes controlled motion
5 rotary motion/1 linear
- 1885mm (74.0 in.) reach
- Up to 610" (15.4 m) travel
- Repeatability $\pm .10$ mm ($\pm .004^{\circ}$)

ARC Mate S-500

- 15 kg (33 lbs.) wrist loading capacity
- 6 axes controlled motion
- 2739 mm (107.8 in.) reach
- 300 degree work envelope
- Repeatability $\pm .250$ mm ($\pm .010^{\circ}$)





WHAT IS NEXTWELD?

The challenges facing industrial fabricators today are increasingly difficult. Rising labor, material, and energy costs, intense domestic and global competition, a dwindling pool of skilled workers, more stringent and specific quality demands.

Through our commitment to extensive research and investments in product development, Lincoln Electric has established an industry benchmark for applying technology to improve the quality, lower the cost and enhance the performance of arc welding processes. Advancements in power electronics, digital communications and Waveform Control Technology™ are the foundation for many of the improvements.

NEXTWELD brings you a series of Process, Technology, Application and Success Story documents. NEXTWELD explains how technologies, products, processes and applications are linked together to answer the important questions that all businesses face.

- How can we work faster, work smarter, work more efficiently?
- How can we get equipment and people to perform in ways they've never had to before?
- How do we stay competitive?
- How do we maintain profitability?

NEXTWELD is the future of welding but its benefits are available to you today. Ask your Lincoln Electric representative how to improve the flexibility, efficiency and quality of your welding operations to reduce your cost of fabrication.



Power Wave® F355i



Shown integrated with FANUC ARC Mate R-J3iB Controller.

Output **CV** **DC** Input **3 PHASE** **50/60 Hz**

The Power Wave F355i inverter power source is fully integrated with the FANUC ARC Mate™ R-J3iB controller and designed for the most demanding robotic applications. This compact unit delivers 350 amps @ 60% duty cycle for various welding applications. The Power Wave F355i/ARC Mate R-J3iB communicates via ArcLink™, the welding industry's leading digital communication protocol for system components, allowing all welding procedures and process controls to be managed through the ARCMate robot teach pendant – one central control for setup, process control and diagnostics.

Processes

MIG, Pulsed, Flux-Cored

Advantage Lincoln

- Utilizes ArcLink™ - the leading digital communication protocol making it the best choice for applications requiring seamless, time-critical integration to the power source.
- State-of-the-art Inverter technology yields an 88% efficiency, excellent welding performance, and a lightweight, and compact design.

- Improved troubleshooting as the power source ready status and fault logs are available directly from the robot's teach pendant and the controller's Ethernet port.
- Improved cycle times with reduced arc start time, faster touch sense search speed, and a more responsive burnback.
- Compact integrated package with simple internal connections with one input power cable for both the power source and robot controller.
- Quick and easy set-up with minimal floor space requirements.
- High speed digital communication for industry-leading seam tracking and data monitoring capability.
- Full control of welding parameters from the robot's teach pendant.
- The Power Wave F355i has a built-in database of weld programs is readily accessible from the robot's teach pendant.
- The R-J3iB controller Ethernet connection enables communication to remotely monitor, modify, troubleshoot and upgrade the power source from any networked PC.
- Three-year warranty on parts and labor.

Recommended General Options

Cool Arc® 40, 14-pin to 14-pin Control Cable, Servo Torch, Robotic Welding Torch

Order

The Power Wave F355i is only compatible with the FANUC Arc Mate™ R-J3iB controller.

Call the Lincoln Electric Automation Division at 216.383.2667 for more information.

Literature

E10.80

Product Name	Product Number	Input Power(1)	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D inches (mm)	Net Weight lbs (kg)
Power Wave F355i	K2156-1	380/400/415/460/575/3/50/60	350A/34V/60% (300A/32V/100%)	28/27/26/23/18A (23/22/22/19/16A)	5-425A	14.6 x 20.9 x 17.2 (372 x 530 x 437)	99.5 (45.1)

(1) FANUC ARC Mate R-J3iB Controller is 460/575 AC Input Voltage.

Power Wave® 455M Robotic & Power Wave® 455M/STT Robotic



The Power Wave 455M Robotic is a high performance, digitally controlled inverter power source designed for robotic, hard automation and semiautomatic applications. It is designed to be part of a modular, multi-process welding system that can be arranged in a variety of ways for optimum, customized performance and easy maintenance. Optional DeviceNet™ and Ethernet communication modules provide networking capabilities and allow the power sources to communicate with other industrial machines to create a highly integrated and flexible welding cell. Available as a standard model or with Lincoln's STT® process for applications in which heat input control, minimal distortion, reduced spatter and low fumes are essential.

Processes

MIG, Pulsed, STT, Flux-Cored

Advantage Lincoln

- Program your own waveform or choose from over 60 standard welding waveform programs that offer a broad range of electrode size, type and shielding gas combinations to give you optimal appearance, penetration, bead-shape and travel speed for each application.
- Modular design enables robotic, hard automation and semiautomatic applications using a single machine platform.

- Optional communication modules provide networking capabilities via DeviceNet or Ethernet.
- Utilizes ArcLink™ - the leading digital communication protocol for welding, making it the best choice for seamless, time critical integration to the power source and networked equipment.
- Software based controls can be upgraded as new features become available.
- Process and production monitoring with access to real time (500Hz) feedback such as arc current, voltage and wire feed speed. Access to internal data acquisition (10KHz) and access to real time machine status such as fault/alarm conditions and arc time.
- A Power Wave inverter operates at a high efficiency (88-90%) with a 95% minimum power factor(1) and is capable of operating from a universal input voltage (208 to 575 volts).
- Power Wave 455M/STT features Lincoln's Surface Tension Transfer® Process, which controls heat input for great penetration and reduced spatter and fumes.

Recommended General Options

DeviceNet Interface Module, Ethernet Interface Module, Analog Interface Module, Wave Designer™ Software, Dual Cylinder Platform Undercarriage, CoolArc® 40 Water Cooler

Recommended Wire Feeder

Power Feed 10R

Order

- K2262-1 Power Wave 455M Robotic
- K2263-1 Power Wave 455M/STT Robotic

Call the Lincoln Electric Automation Division at 216.383.2667 for more information.

Literature

E10.90

Product Name	Product Number	Input Voltage	Rated Output Current/Voltage/Duty Cycle	Input current @Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
Power Wave 455M Robotic	K2262-1	208/230/460/575/3/50/60	60Hz: 450A/38V/100% (570A/43V/60%)	60Hz: 58/53/25/22A (82/78/37/31A)	5-570A	26.1 x 19.9 x 32.9 (663 x 505 x 835)	286 (130)
Power Wave 455M/STT Robotic	K2263-1		50Hz: 400A/36V/100% (500A/40V/60%)	50Hz: 49/45/23/18A (67/61/31/25A)			293 (133)

(1) At rated output.

Power Wave® 655 Robotic **NEW!**



Output   Input  

The Power Wave 655 Robotic is high-performance, digitally controlled inverter power source capable of complex, high-speed waveform control. The Power Wave 655 Robotic provides additional output for those heavy duty automation jobs. This Power Wave connects seamlessly to robot controllers and hard automation PLCs to create a highly integrated and flexible welding cell. The Power Wave 655 Robotic is built just like our Power Wave 455M Robotic, a proven and reliable inverter platform for various hard automation and robotic applications. The Power Wave 655 Robotic works exclusively with the Power Feed 10R wire feeder.

Processes

MIG, Pulsed, Flux-Cored

Advantage Lincoln

- Program your own waveform or choose from over 60 standard welding waveform programs that optimize output for a broad range of electrode size, type and shielding gas combinations to give you optimal appearance, penetration, beadshape and travel speed for each application.
- Utilizes ArcLink™ - the leading digital communication protocol for welding, making it the best choice for seamless, time-critical integration to the power source and networked equipment.

- Software based controls can be upgraded as new features become available.
- Process and production monitoring with access to real-time (500Hz) feedback such as current, voltage and wire feed speed. Access to internal data acquisition (10 KHz) and access to real-time machine status, such as fault/alarm conditions and arc time.
- A Power Wave inverter operates at a high efficiency (88-90%) with a 95% minimum power factor(1) and is capable of operating from a universal input voltage (230 to 575 volts).
- Excellent power source for heavy duty Tandem MIG applications.
- Standard Ethernet/DeviceNet capabilities.

Recommended General Options

Analog Interface Module, Wave Designer 2000™ Software, Dual Cylinder Platform Undercarriage, Cool Arc® 40 Water Cooler

Recommended Wire Feeder

Power Feed 10R

Order

K1519-1 Power Wave 655 Robotic

Call the Lincoln Electric Automation Division at 216.383.2667 for more information.

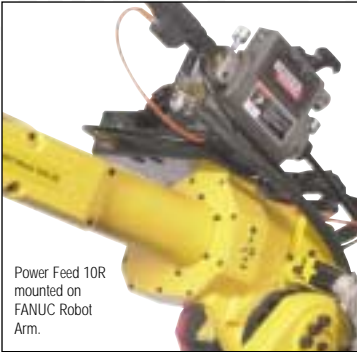
Literature

E10.95

Product Name	Product Number	Input Voltage	Rated Output Current/Voltage/Duty Cycle	Input current @Rated Output	Output Range	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
Power Wave 655 Robotic	K1519-1	230/460/575/3/50/60	60Hz: 650A/44V/100% (850A/44V/60%)	60Hz: 43/34A (82/78/37/31A)	20-880A	26.1 x 19.9 x 32.9 (663 x 505 x 835)	286 (130)

(1) At rated output.

Power Feed™ 10R



Power Feed 10R mounted on FANUC Robot Arm.



Compact Wire Drive System for Automation

The Power Feed 10R is a high performance, digitally controlled wire feeder designed to be a part of a modular, multi-process welding system. It is specifically designed to mount to a robot arm or to use in hard automation applications. Modular systems can be arranged in a variety of ways for optimum, customized performance and easy maintenance. This four drive roll feeder operates on 40VDC input power and is designed to be used with ArcLink™ Robotic Power Wave™ power sources. Close integration of the feeder, power source and existing equipment creates the foundation for a system with superior welding performance and reliability.

Processes

MIG, Pulsed, STT, Flux-Cored, Metal-Cored

Advantage Lincoln

- Digitally controlled by the Power Wave power source, yielding the best performance in the industry.
- Use with Lincoln power sources featuring ArcLink, the leading digital communications protocol for welding, making it the best choice for seamless integration with the power source and networked equipment.

- Tachometer feedback provides calibration and precise control of wire feed speed.
- Feeder brakes from maximum speed to zero in milliseconds, minimizing the chance of wire sticking in the puddle.
- Select standard or high speed gears for wide wire feed speed range.
- Split wire guides provide trouble-free feeding and offer fast, tool-less wire installation, changeover and maintenance.
- Easy-to-read gauge for accurate drive roll tension.
- Brass-to-brass connections for good connectivity between feeder and gun.
- Modular construction for easy servicing.
- Self loading wire feature for easy set-up.

Recommended General Options

Water Connection Kit, 14-Pin to 14-Pin Control Cable, 4 Drive Rolls and Split Wire Guide, Torch Bushings, Incoming Conduit Bushings, Wire Straightener, Magnum Low Drag Wire Conduit, Accu-Trak™ Drum Payoff Kit

Recommended Power Sources

Power Wave F355i, Power Wave 455M Robotic, Power Wave 455M/STT Robotic, Power Wave 655R

Order

K1780-2 Power Feed 10R

Call the Lincoln Electric Automation Division at 216.383.2667 for more information.

Literature

E9.160

Product Name	Product Number	Wire Feed Speed Range inches/min (m/min)	Wire Size Range Solid inches (mm)	Wire Size Range Cored inches (mm)	Dimensions H x W x D inches (mm)	Net Weight lbs (kg)
Power Feed 10R	K1780-2	50-800 in/min (1.3-20.3m/min) 75-1200 in/min (2.0-30.5 m/min)	.025-.3/32 in (0.6-2.4mm) .025-1/16 in (0.6-1.6mm)	.035-.120 in. (0.9-3.0mm) .035-5/64 in (0.9-2.0mm)	8.9 x 10.3 x 8.1 (226 x 261 x 206)	22.4 lbs (10.2 kg)

Guns, Torches & Accessories

ACCESSORIES



MIG and Gas-Shielded Flux-Cored Guns

Magnum MIG and flux-cored guns are designed with the welder in mind. Ergonomic and lightweight, these air-cooled and water-cooled guns are designed to be used with gas-shielded (MIG) and gas-shielded flux-cored (FCAW) continuous feed arc welding wires.

Request publication E12.10.

Pro-Torch™ TIG Torches

Light and easy to use, these torches feature flexible head models that give you the power of maximum versatility and maneuverability. A molded, knurled handle gives you a fast grip so you can focus on the weld. Available in either air-cooled or water-cooled designs.

Request publication E12.150.

Magnum Self-Shielded Flux-Cored Guns

Durable and reliable, Magnum semiautomatic flux-cored gun and cable assemblies have been proving themselves for over 30 years. These lightweight and maneuverable gun and cable assemblies are designed for welding with self-shielded, flux-cored arc welding (FCAW-S) continuous feed wires.

Request publication E12.110.

UltraShade™ Helmets

Ultras shade professional auto-darkening helmets provide a more convenient lower fatigue working environment for professional welders.

- Automatic shade cartridges improve efficiency and precision with the highest level of safety.
- User-friendly design combined with precision optics and high-tech electronics enables top quality welding performance.
- Adjustable settings for maximum personal comfort in all working positions.

Request publication E12.205.

Cool-Arc™ 40 Water Cooler

The Cool-Arc™ 40 is a reliable and affordable water cooler for water-cooled MIG, TIG, or plasma cutting applications. Available in both 115 and 230 volt models, the Cool-Arc 40 is compatible with all Lincoln water-cooled systems including Cobramatic®. The Cool-Arc 40 features a rugged industrial pump manufactured by Pro-Con®, the leading pump manufacturer for welding water coolers. This pump is an industry standard, making the Cool-Arc 40 easy to service and maintain.

Request publication E12.170.

Other Great Magnum Products To Complete Your Welding Package

Spool Gun and Control Module.

Request publication E12.22.

Genuine Magnum Replacement Parts including Contact Tips, Gas Nozzles, Cable Liners and Gas Diffusers.

Harris® Calorific



Welding and Cutting Products

Our Harris Calorific Division, headquartered in Gainesville, Georgia, U.S.A. is a manufacturer of high performance gas apparatus equipment. Products include pressure and flow control regulators, and gas hand and machine cutting torches.

Call Harris at 1-800-241-0804 and request the Harris Gas Apparatus Catalog, or visit us on the web at www.harris calorific.com.

The Pipeliner™

The Pipeliner™ is the quality standard among oxy-fuel gas outfits. It is built with the strength and performance to stand up to the most demanding welding, cutting, brazing or heating needs. Capable of cutting 1 in. (25.4mm) thick and welding to 1/4 in. (6.4mm) thick. With larger capacity tips, will cut to 6 in. (152mm) thick and weld to 1 in. (25.4mm) thick.

The Steelworker™ outfit is also available for primary metal cutting and general purpose use.

Port-A-Torch

Contains all the quality equipment needed for cutting, welding and brazing in a rugged molded plastic carrying case. The outfit is designed to carry one MC acetylene cylinder and one 20 cu. ft. oxygen cylinder. As supplied, the outfit is capable of cutting to 1 in. (25.4mm) and welding to 1/16 in. (1.6mm). Can cut to 4 in. (102mm) and weld to 1/2 in. (12.7mm) with larger tips and acetylene cylinder. Includes goggles, striker and hose.

Shielding Gas Kits

Complete packages for shielding gas supply to your MIG or TIG machine. Includes 10 ft. (3.0m) of 3/16 in. (4.8mm) single hose with inert gas fittings. Select Flow Gauge or Flow Meter model.

The Pipeliner



Port-A-Torch



Flow Gauge



Flow Meter

Lincoln Consumables

We're very fussy about the arc welding consumables that carry the Lincoln brand name. In fact, our consumables are the most thoroughly tested welding consumables in the industry. We check raw materials for up to 30 chemical elements, monitor electrode diameter and flux mixtures several times during the manufacturing process and examine the appropriate coating or surface conditioning using a variety of proprietary technologies.

Why do we go to all this trouble? Two reasons: First, we don't want to just meet the outside limits of AWS or other industry specifications – we want to nail it to assure you will always be within required specifications. In other words, you will get what you pay for!

More importantly, we want to deliver the most consistent performance – performance you can rely on inch by inch within a package, or from package to package, or from pallet to pallet. After all, your reputation – and ours – depends on it.

Stick

Stick electrodes are available in a variety of packaging to conveniently meet your welding needs. Request the following brochure for Lincoln's full range of electrodes.

- Consistent coating composition for consistent performance.
- Great puddle control and arc action.

Request publication C2.10.

TIG

Our commitment to supplying cut length consumables brings with it Lincoln's proven track record of providing wires with the following features:

- Excellent Welding Characteristics
- Precise Control of Wire Chemistry

Request publication C9.10.

MIG Wires

SuperArc™ and SuperGlide™ wires have earned a reputation for being the best MIG wires in the industry with the following features:

- Unparalleled consistency in weld wire electrode quality.
- Chemistry – only the best raw materials are good enough.
- MicroGuard™ surface conditioners ensure smooth, trouble-free wire feeding and arc performance.
- Less spatter, less cleanup, reliable starting and improved arc performance with MicroGuard™ Ultra arc enhancement agents.

Request publication C4.10.

Flux-Cored, Gas-Shielded

Outershield® gas-shielded, flux-cored continuous wire electrodes are designed for use with either CO₂ or argon mixes. The deep penetration characteristics of these electrodes make them ideal for automatic and semiautomatic welding of fillet, lap and butt welds in both single and multiple pass welding applications with the following features:

- Excellent Operator Appeal
- Good Resistance to Porosity/Gas Marking
- High Deposition Efficiencies

Request publication C3.10.

Flux-Cored, Self-Shielded

Innershield® self-shielded, flux-cored wires are especially suited for outdoor or drafty locations. No external gas or flux is required, making the entire Innershield process user-friendly with the following features:

- Open Arc Process, No Gas Shielding Required
- Welds Outdoors/Drafty Locations

Request publication C3.2000.

Metal-Cored, Gas-Shielded

Metalshield™ combines the arc characteristics of MIG with the performance benefits of flux-cored welding for faster travel speeds and high deposition rates with low smoke and spatter.

- Reduced clean-up time due to low spatter levels.
- Achieves deposition efficiencies of 90% or more.
- Highly deoxidized wire electrode for excellent performance over mill scale.
- Reduced distortion due to low heat input.

Request publication C3.10.

Submerged Arc

Lincoln Electric is the industry leader in submerged arc welding equipment and consumables. Our wire and fluxes:

- Provide exceptional weld quality, and bead appearance.
- Designed for both automatic and semiautomatic welding applications.
- Excellent for single and multiple pass welds in the flat and horizontal positions.

Request publication C5.10.

Lincoln Consumables

Hardfacing

Hardfacing products are used to restore parts to their original size that have been worn down due to metal-to-metal friction, severe impact, severe abrasion or abrasion plus impact.

Request publication C7.10.

Stainless Steel

Lincoln's broad range of premium stick, TIG, MIG, flux-cored and submerged arc consumables can be found in the following publication:

Request publication C6.10

Aluminum

Lincoln's broad range of premium stick, TIG and MIG consumables can be found in the following publications:

- Aluminweld Stick C8.10
- TIG Consumables C9.10
- SuperGlaze MIG C8.05

Our SuperGlaze aluminum products:

- provide trouble-free feedability.
- have excellent surface finish for excellent arc characteristics.

Pipeliner™ **NEW!**

Premium pipe welding consumables.

- Consistent Performance
- Lot-Tested and Lot-Certified
- Special Moisture Resistant Packaging

Request publication C1.100



"We have used Lincoln Electric's Excalibur® electrode for two years now and I would recommend it. The Excalibur has a low smoke level, which is very important so the operator can see the puddle. Also, the flow characteristics are such that the puddle isn't too fluid, making it an excellent all-position electrode. It has very nice arc stability, low spatter levels and creates a nice finished weld when the operator uses proper welding procedures and techniques. The slag peels off nicely to create a good appearance. We have no reason to switch."

Alan Popp, President
M.A.P. Mechanical Contractors, Inc.



Stick Electrode

Electrode Name	AWS Classification	Recm'd Polarity	General Description
Steel – Carbon & Low Alloy			
Fast Freeze, Out-Of-Position, Mild Steel Stick Electrodes			
Fleetweld® 35	E6011	AC DC±	Operators consistently give this electrode high marks. This quality Lincoln product is a proven performer for sheet metal welding applications and AC pipe welding. Fleetweld 35 is a great electrode to use on jobs where the steel isn't clean.
Fleetweld 35LS	E6011	AC DC±	Great for making tack welds under Innershield® deposits. Use Fleetweld 35LS with confidence on plated, dirty, painted, or greasy steel. It's an outstanding stick choice for AC pipe welding, for applications that require deep penetration, and in jobs where x-ray quality welds are required.
Fleetweld 180	E6011	AC DC±	Got a small AC welder? Here's your electrode! Fleetweld 180 offers excellent arc stability for excellent performance with power sources as low as 50V open-circuit voltage (OCV). A great stick electrode with the ability to start easily on low open circuit voltage welders.
Fleetweld 22	E6022	DC+ AC	Developed specifically for floor decking and other applications where burnthrough spot welding on sheet metal is required. Fleetweld 22 is great for galvanized or plated sheet steel, as well as on steel that is painted or dirty.
Fast-Fill, High Deposition, Mild Steel Stick Electrode			
Jetweld® 1	E7024-1	AC DC±	When the project involves large welds, you can't pick a more user-friendly electrode! Operators appreciate Jetweld 1's smooth bead and high deposition rates. A great general purpose electrode for single or multi-pass applications.
Jetweld 2	E6027	AC DC±	When the job demands x-ray quality welds, high deposition rates, and excellent wash-in, reach for Jetweld 2. We've designed the Jetweld 2 for peak performance on multiple pass welds, and fast-fill single pass welds.
Jetweld 3	E7024	AC DC±	Jetweld 3's high deposition rates, and smooth bead make it a great choice for welding on mild steel. It is especially effective for multi-pass welds and fast-fill single pass welds.

Stick Electrode

Electrode Name	AWS Classification	Recm'd Polarity	General Description
Steel – Carbon & Low Alloy, con't.			
Fill Freeze, High Speed, Mild Steel Stick Electrodes			
Fleetweld 7	E6012	DC- AC	Got a variety of jobs that a single all-position electrode has to handle? Choose Lincoln Electric's Fleetweld 7. This versatile, high-speed electrode is a real workhorse on sheet metal lap joints and fillet welds. It's also a great choice for poor fit-up welding jobs.
Fleetweld 37	E6013	AC DC±	Here's a terrific all-position electrode for low amperage welding on sheet metal – especially in applications where appearance is important. We've designed Fleetweld 37 for excellent performance with smaller AC welders with low open-circuit voltages. It's an excellent choice for jobs involving irregular or short welds that require a change in position.
Fleetweld 47	E7014	AC DC±	Fleetweld 47 features high deposition rates for fast performance. Operators love this easy-to-use, all-position electrode! Choose Fleetweld 47 for sheet metal lap joints and fillet welds, general purpose plate welding and maintenance jobs.
Low Hydrogen, Mild Steel Stick Electrodes			
Lincoln 7018AC	E7018 H8	AC DC±	AC? DC? This electrode performs beautifully either way! Lincoln 7018AC is a great choice for low open circuit voltage AC power sources. Cold restrikes are no problem with this versatile, all-position electrode.
Jetweld LH®-70	E7018 H4R	DC+ AC	A top-choice electrode for welding on thick sections and restrained joints when cracking is an issue. It's also a good call when the project involves hard-to-weld steels. Jetweld LH-70 also offers high deposition rates.
Jet®-LH-78 MR	E7018 H4R	DC+ AC	Great for jobs on mild steel and some high-strength low-alloy steels. It also tolerates high sulfur and high silicon steels. Jet-LH 78 MR features higher tensile strength for stress-relieved properties.
Jetweld LH-73	E7018 H8	AC DC+	Jetweld LH-73 delivers easy restriking for jobs that involve skip and tack welding. This dependable electrode is a favorite of operators who weld on AC. It's designed for optimum performance on machines that use low open circuit AC voltage.
Excalibur® 7018	E7018 H4R	DC+ AC	There's a long list of reasons why operators are so loyal to Excalibur 7018. They tell us they love the clean puddle, the square coating burnoff, the easy all-position handling and the excellent wash-in characteristics. It's a terrific choice for jobs that involve steels with poor weldability.

Stick Electrode

Electrode Name	AWS Classification	Recm'd Polarity	General Description
Steel – Carbon & Low Alloy, con't.			
Low Hydrogen, Mild Steel Stick Electrodes, con't.			
Excalibur® 7018-1	E7018-1 H4R	DC+ AC	When the job involves critical, out-of-position welding, reach for Lincoln Electric's Excalibur 7018-1. It offers a beautifully clean weld puddle, uniform slag follow, and superior wash-in with no undercutting. Also great for welding on steels with marginal weldability.
Jetweld® LH-3800	E7028 H8	AC DC+	If high production and low hydrogen deposits matter, count on Jetweld LH-3800. This electrode's fast, easy restriking characteristics make it great for skip and tack welding. Good notch toughness down to 0°F (-18°C).
Low Hydrogen, Low Alloy Steel Stick Electrodes			
Jetweld LH-90 MR	E8018-B2 H4R E9018-G H4R	DC+ AC	LH-90 MR was designed to meet the rigorous demands of high temperature, high pressure piping assignments. This electrode offers a nominal 1-1/4% chromium, 1/2% molybdenum deposit and meets the requirements of high tensile (90,000 psi) steels.
Jet®-LH 8018-B2 MR	E8018-B2 H4R	DC+ AC	If your welding involves 1-1/4% chromium and 1/2% moly pipe, tubes, boilers or castings, you'll want Jet-LH 8018-B2 MR as your welding electrode. It offers a 1-1/4% chromium and 1/2% molybdenum deposit. Reach for this electrode when operating temperatures exceed 850°F (450°C).
Jet-LH 8018-C1 MR	E8018-C1 H4R	DC+ AC	Jet-LH 8018-C1 MR has outstanding impact properties. This is the ideal electrode for welding on equipment and pipe that will transport liquid ammonia, propane and other gases. An excellent all-position electrode for applications requiring a nominal 2-1/4% nickel deposit.
Jet-LH 8018-C3 MR	E8018-C3 H4R	DC+ AC	An excellent stick electrode with excellent impact properties. Jet-LH 8018-C3 MR produces a nominal 1% nickel deposit that is a great fit for a wide range of welding applications. A good choice for welding on weathering type steels.
Jet-LH 9018-B3 MR	E9018-B3 H4R	DC+ AC	Great low hydrogen stick electrode. For welding 2-1/4% chromium and 1% molybdenum steels when heat treating is required. Good mechanical properties in the as-welded and stress relieved condition. A great choice when temperatures exceed 850°F (450°C).
Jetweld LH-110M MR	E11018-M H4R	DC+ AC	You'll especially like this all-position electrode for jobs that call for welding high tensile steels such as T-1 steel and HY-80. Jetweld LH-110M MR is also a great match for any general fabrication or repair where the weld deposit must meet AWS E11018-M.

Stick Electrode

Electrode Name	AWS Classification	Recm'd Polarity	General Description
Steel – Carbon & Low Alloy, con't.			
Fill Freeze, Out-Of-Position Pipe Welding, Mild Steel & Low Alloy Steel Stick Electrodes			
Fleetweld 5P	E6010	DC+	Fleetweld 5P is a great choice for welding on dirty, rusty, greasy or painted steel – especially in vertical or overhead applications.
Fleetweld 5P+	E6010	DC+	Lincoln's Fleetweld 5P+ is ideal for steel that's less than clean. It's a first choice for pipe welding, and vertical-up and overhead plate welding. This electrode is a long-time favorite among operators who handle cross-country and in-plant pipe welding.
Shield-Arc® 85	E7010-A1	DC+	Need a reliable, all-position stick electrode for high tensile steel pipe? Here's your electrode! Shield-Arc 85 produces a 70,000 psi, 1/2% molybdenum weld deposit for use on 1/2% molybdenum pipe steels and API 5LX-42 through X-56 line pipe.
Shield-Arc HYP+	E7010-P1	DC+	Tendency for "fingernailing" and electrode sticking have been virtually eliminated! Designed for all passes of API 5LX-52 through X-65 high strength pipe. Provides the welder with a clean, visible weld puddle and superior puddle control. A true E7010-P1 electrode.
Shield-Arc 70+	E8010-G	DC+	Here's an electrode that makes short work of even the most challenging high silicon pipe applications! Shield Arc 70+ is an outstanding choice for API 5LX-56 through X-70 grade pipe, as well as for a wide range of sheet metal welding assignments.
Shield-Arc 80	E8010-G	DC+	When your job involves vertical down welding on high strength pipe, reach for Lincoln's Shield-Arc 80 electrode. This dependable stick electrode offers the perfect combination of low temperature impact properties and deep penetration. It handles all passes on API 5LX-56 through X-70 pipe. Excellent "stacking" ability is a feature of Shield-Arc 80, that maximizes productivity on the job site. Also meets AWS E8010-P1 requirements.
Shield-Arc 90	E9010-G	DC+	An all-position pipe electrode that's a great choice when the task is vertical down welding on API 5LX-70 through X-80 pipe. SA-90 also performs well in situations where low hydrogen processes are not practical, and when welding on dirty steels.

TIG Cut Lengths

Electrode Name	AWS Classification	General Description
<i>Carbon Steel Gas Welding</i>		
Lincoln R45	R45	General purpose oxyfuel rod for welding mild steels.
Lincoln R60	R60	Oxyfuel rod for welding a variety of steels where additional strength and ductility are needed.
<i>Carbon Steel TIG Welding</i>		
Lincoln ER70S-2	ER70S-2	Triple deoxidized rod which produces high quality x-ray quality welds over most surface conditions.
Lincoln ER70S-6	ER70S-6	High quality rod with higher levels of Mn and Si which produces sound welds with excellent wetting action.
<i>Silicon Bronze</i>		
Lincoln Silicon Bronze	ERCuSi-A	Copper/silicon alloy for welding copper, copper silicon, and copper zinc materials to mild steel .
<i>Stainless Steel</i>		
Lincoln ER308/308L	ER308, ER308L	For joining 304 and 304L and other "18-8" stainless steels.
Lincoln ER309/309L	ER309, ER309L	For 309 stainless steels and joining carbon steels or low alloy steels to stainless steels.
Lincoln ER316/316L	ER316, ER316L	For joining 316L stainless steels.
<i>Aluminum</i>		
SuperGlaze™ 4043	ER4043	Aluminum-silicon alloy for use on many weldable cast and wrought aluminum alloys. The silicon addition improves puddle fluidity, making it a preferred alloy.
SuperGlaze 5356	ER5356	Aluminum-magnesium alloy for use on many weldable cast and wrought aluminum alloys. 5356 is generally chosen for its high shear strength.
<i>Copper/Nickel Alloys, Gas Welding & Bronzing</i>		
Lincoln Low Fuming Bronze (Coated & Bare)	RBCuZn-C	For buildup applications and welding copper, brass, and bronze alloys.

MIG Wires



Our MicroGuard™ Ultra surface treatment, with proprietary arc enhancement agents, facilitates excellent weld puddle control, very good wetting action, straight bead edges and a wider operating range. Plus, the exceptional feeding characteristics of SuperArc® and SuperGlide®, made possible by MicroGuard™ Ultra surface treatment, translate to reduced down-time and high operator appeal.

Electrode Name	AWS Classification	General Description
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Mild Steel Wire

SuperArc L-50	ER70S-3	Our most popular MIG wire, SuperArc L-50, premium copper coated wire, is an excellent choice for 50,000 psi (345 MPa) yield strength, carbon steel base materials. SuperArc L-50 has moderate levels of silicon and manganese for deoxidation and cleaning action. Designed for use on clean, oil-free, and rust-free base material. Will tolerate light millscale. SuperArc L-50 also has an excellent reputation for feedability and trouble-free performance. Shielding gases include argon/carbon dioxide blends, argon/oxygen blends, straight carbon dioxide.
SuperGlide S3	ER70S-3	SuperGlide S3, our premium bare MIG wire, like our SuperArc L-50, is an excellent choice for 50,000 psi (345 MPa) yield strength, carbon steel base materials. SuperGlide S3 has moderate silicon and manganese deoxidizer levels and has an excellent reputation for feedability and trouble-free performance. Designed for use on clean, oil-free, and rust-free base material. Will tolerate light millscale. SuperGlide S3 MIG wire is an excellent choice when a bare or non-copper coated ER70S-3 wire is preferred. Shielding gases include argon/carbon dioxide blends, argon/oxygen blends, straight carbon dioxide, and three or four-part gas mixes.
SuperArc L-54	ER70S-4	SuperArc L-54 premium copper coated MIG wire is your first choice when welding on metals with a light to medium presence of millscale. For best performance, use on clean, oil-free, and rust-free base material. Improved wetting at the toes of a weld when compared to welds made with ER70S-3 electrode. SuperArc L-54 has higher silicon and manganese deoxidizer levels than AWS ER70S-3 electrodes to tolerate moderate levels of millscale. Shielding gases include argon/carbon dioxide blends, argon/oxygen blends, straight carbon dioxide, and three or four-part gas mixes.
SuperArc L-56	ER70S-6	Lincoln's premium copper coated MIG wire, SuperArc L-56 is an excellent choice for welding on metals with a medium to high presence of millscale. For best performance use on clean, oil-free, and rust-free base material. Best weld appearance and toe wetting when compared to ER70S-3 and ER70S-4 classifications. SuperArc L-56 has high silicon and manganese deoxidizer levels. Superior feedability and excellent arc characteristics are trademarks of SuperArc L-56. Shielding gases include argon/carbon dioxide blends, argon/oxygen blends, straight carbon dioxide, and three or four-part gas mixes.
SuperGlide S6	ER70S-6	Lincoln's premium bare, mild steel MIG wire, SuperGlide S6 is an excellent choice for welding on metals with a medium to high presence of millscale. For best performance use on clean, oil-free, and rust-free base material. S6 will tolerate higher levels of surface contaminants than ER70S-3 or S-4 electrodes. Best weld appearance and toe wetting when compared to ER70S-3 and ER70S-4 classifications. High silicon and manganese deoxidizer levels. SuperGlide S6 MIG wire is the choice for you when a bare or non-copper coated ER70S-6 wire is preferred. Shielding gases include argon/carbon dioxide blends, argon/oxygen blends, straight carbon dioxide, and three or four-part gas mixes.

MIG Wires



Our MicroGuard™ Ultra surface treatment, with proprietary arc enhancement agents, facilitates excellent weld puddle control, very good wetting action, straight bead edges and a wider operating range. Plus, the exceptional feeding characteristics of SuperArc® and SuperGlide®, made possible by MicroGuard™ Ultra surface treatment, translate to reduced down-time and high operator appeal.

Electrode Name	AWS Classification	General Description
Low Alloy Wire		
SuperArc LA-75	ER80S-Ni1	SuperArc LA-75 is a premium copper coated, low alloy MIG wire certified to meet 80,000 psi (552 MPa) minimum tensile strength. Optimal mechanical properties are achieved with a 98-95% argon, 2-5% oxygen shielding gas blend. Can be welded with 90% argon, 10% carbon dioxide gas blend, as well as 75% argon, 25% carbon dioxide mixture. Charpy V-Notch impact testing meets or exceeds 20 ft. lbs. (27 J) at -50°F (-46°C). LA-75 delivers a weld deposit with outstanding corrosion resistance for use on ASTM A588 weathering steels.
SuperArc LA-90	ER80S-D2 ER90S-D2 (ER90S-G)	SuperArc LA-90 is our premium copper coated, low alloy MIG wire manufactured to meet tensile strength requirements of 80,000 to 90,000 psi (552-620 MPa) minimum. The addition of 0.5% molybdenum provides strength after stress relief. Ideal selection when welding ASTM A182, A217, A234 and A335 high temperature pipe, fittings, flanges and valves and A336 pressure vessel forgings. Best mechanical properties are achieved with an 98-95% argon, 2-5% oxygen shielding gas blend.
SuperArc LA-100	ER100S-G (ER110S-G) MIL-100S-1 (Military)	SuperArc LA-100, our premium copper coated, low alloy MIG wire is designed for use on 100,000 psi (690 MPa) tensile base material and those materials that require a minimum yield strength of 82,000 psi (565 MPa). Excellent for welding on ASTM A514, A543, A724 and A782 quenched and tempered plate or HY-80 base material. LA-100 provides excellent impact properties under higher heat input conditions. Best mechanical properties are achieved with an 98-95% argon, 2-5% oxygen shielding gas blend or 95% argon/5% oxygen. Also meets MIL-E-23765/2C, /2D, /2E specifications as a MIL-100S-1 classification.

"Recently we were experiencing problems with a competitor's welding wire's coating flaking. We decided to make the switch to Lincoln Electric's SuperArc® L-56 welding wire. It's an extremely smooth running wire with excellent puddle control that produces a quality weld with good penetration.

Along with switching the wire manufacturer we also upgraded from the 30-pound spool to the 500-pound Accu-Pak™ box, for both our robotic and manual frame welding operations. The change enabled us to purchase a better quality welding wire at a very competitive price. With Lincoln's wire, our efficiency has increased and we are extremely pleased that we made the change."

*Charles Scharfy, Senior Welding Engineer
Indian Motorcycle Corp.*

Aluminum MIG Wires


SuperGlaze™ controls the problems usually associated with aluminum wire feeding such as birdnesting, tangling and burnback, by providing fewer surface imperfections and feeding the wire with less force than typical competitive products.

Electrode Name	AWS Classification	General Description
SuperGlaze™		
SuperGlaze 1100	ER1100	SuperGlaze 1100 is highly resistant to chemical corrosion and has good crack resistance. Suitable for electrical and chemical applications utilizing aluminum base metal with little or no alloying elements. Like all 1XXX filler alloys, Lincoln's SuperGlaze 1100 is the softest aluminum MIG wire and requires extra care to ensure good feeding.
SuperGlaze 4043	ER4043	SuperGlaze 4043 is a great choice for the welding of heat-treatable base alloys and more specifically the 6XXX series alloys. It has a lower melting point and more fluidity than the 5XXX series filler alloys and is preferred by welders because of its favorable operating characteristics. ER4043 type wires are also less sensitive to weld cracking with the 6XXX series base alloys. SuperGlaze 4043 is suitable for sustained elevated temperature service, i.e. above 150°F (65°C).
SuperGlaze 4047	ER4047	A lower melting point and higher fluidity are two advantages SuperGlaze 4047 has over its cousin SuperGlaze 4043. SuperGlaze 4047 produces very clean weld deposits and possesses excellent operator appeal. It can be used as a substitute for an ER4043 type wire to increase silicon in the weld metal, minimize hot cracking, and produce higher fillet weld shear strength. SuperGlaze 4047 is suitable for sustained elevated temperature service, i.e. above 150°F (65°C).
SuperGlaze 5183	ER5183	SuperGlaze 5183 is designed to weld high magnesium alloys to meet higher tensile strength requirements. Use on 5083 and 5654 base materials when required tensile strengths are 40,000 psi (276 MPa) or greater. Typical applications are in the marine and cryogenic industries, and high strength structural aluminum fabrication.
SuperGlaze 5356	ER5356	SuperGlaze 5356 is our most popular aluminum MIG wire. It is a great general purpose filler alloy designed for the welding of 5XXX series alloys when 40,000 psi (276 MPa) tensile strength is not required. 5356 is often chosen for its high shear strength.
SuperGlaze 5554	ER5554	SuperGlaze 5554 is intended as a matching filler alloy when welding 5454 base alloys. This alloy is a lower magnesium content alloy and is often used for automotive wheels, over-the-road trailers, and rail tank cars where the weld filler metal chemistry must closely match the base material chemistry to maximize corrosion performance.
SuperGlaze 5556	ER5556	SuperGlaze 5556 weld deposits will provide matching tensile strengths for the 5XXX alloys, such as 5083 and 5654. Contains increased amounts of magnesium or manganese compared to SuperGlaze 5356.

Metal-Cored, Gas-Shielded Wires

Electrode Name	AWS Classification	Recm'd Shielding Gas	General Description
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Mild Steel Metal-Cored Wires

Metalshield™ MC-6 	E70C-6M	75-95% Argon with a balance of CO ₂ , or 95-98% Argon with a balance of O ₂ .	For high quality welds that require a great bead shape, appearance and low spatter level, you can't beat MC-6! Combining the arc characteristics of MIG with the performance benefits of flux-cored welding, MC-6 is capable of fast travel speeds and high deposition rates with low smoke and spatter under high argon gas blends.
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Outershield® MC-710XL	E70C-6M	75-95% Argon with a balance of CO ₂ .	This is a low-spatter, virtually slag-free electrode that produces amazingly smooth, clean welds time after time with a much higher deposition rate than solid MIG wires. Can be used out-of-position with short arc and pulsed arc.
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Low Alloy Metal-Cored Wires

Outershield MC-900	E90C-G	75-90% Argon with a balance of CO ₂ .	Virtually spatter-free performance, reduces clean-up time! This electrode is designed for high-speed welding where exceptional bead wetting is important. Use MC-900 on HSLA steels – including HY80 and ASTM A710, as well as on high strength steels.
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Outershield MC-1100	E110C-G	75-90% Argon with a balance of CO ₂ , or 90% Argon/ 7.5% CO ₂ / 2.5% O ₂	Exceptional bead wetting in high-speed welding applications! Spatter is almost non-existent with MC-1100. Use this quality wire on HSLA steels such as ASTM 514, HY-100 and T1 steels with tensile strengths of 110,000 psi.
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Flux-Cored, Gas-Shielded Wires

Electrode Name	AWS Classification	Recm'd Shielding Gas	General Description
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Mild Steel Flux-Cored Wires – High Deposition

Outershield® 70	E70T-1, E70T-9	100% CO ₂	Optimum performance on dirty plate! Designed for superior performance on materials with high levels of rust, oil, or mill scale, Outershield 70 is excellent for flat and horizontal groove and fillet welds.
Outershield 70-H	E70T-1H8, E70T-9H8	100% CO ₂	Especially designed for large welds on heavy plate! Use on mild steel and many low alloy steels used in the ship, bridge, heavy equipment or structural fabrication industries where lower hydrogen levels are required.
Outershield XLH70	E70T-1H8, E70T-9H8	100% CO ₂	XLH stands for Extra Low Hydrogen! Low hydrogen means increased resistance to cracking and reduction in preheat levels. Ideally suited for a wide variety of flat and horizontal applications.



Mild Steel Flux-Cored Wires – All Position

Outershield 71	E71T-1, E71T-9	100% CO ₂ or 75-82% Argon with a balance of CO ₂	The best looking flat and horizontal fillet welds in its class! Lincoln's Outershield 71 is an all-position electrode with excellent bead and balanced wetting action that produces the smoothest horizontal fillets.
Outershield 71 Elite(1)	E71T-1, E71T-9	100% CO ₂ or 75-82% Argon with a balance of CO ₂	Great welds start with this highly productive wire! Whether you are an operator, supervisor, engineer, or business owner, you'll be impressed with the smooth arc behavior, low spatter, and excellent bead appearance.
Outershield 71M	E71T-1, E71T-9	100% CO ₂ or 75-80% Argon with a balance of CO ₂	Fast, virtually effortless vertical fillet welds! Amazing out-of-position puddle control! Deposition rates for this high performance wire are a solid 20% above most E71T-1 electrodes.
Outershield 71M-H	E71T-1 H8 E71T-9 H8	100% CO ₂	One of the smoothest arcs and lowest spatter levels you've ever seen with CO ₂ ! Operators consistently sing the praises of this quality electrode. Impacts are normally in the 80 ft-lbs @-40°F, as welded. An excellent choice for bridge fabrication, offshore structures and shipbuilding.



(1) Recommended for FEMA 353 applications using CO₂ shielding gas only.

Flux-Cored, Gas-Shielded Wires

Electrode Name	AWS Classification	Recm'd Shielding Gas	General Description
Low Alloy Flux-Cored Wires			
Outershield® 81Ni1-H	E81T1-Ni1MH8	75-82% Argon with a balance of CO ₂	For weathering steels! We designed this electrode to deliver x-ray clear deposits with high impact values at low temperatures, in both as-welded and stress relieved conditions. It's an excellent choice when welding in petrochemical plants, or on A588 steels where atmospheric corrosion resistance is required. The bead is flat to slightly convex. Can replace E8018-C3 stick electrode for added efficiency.
Outershield 91K2-H	E91T1-K2MH8	75-95% Argon with a balance of CO ₂	The smooth, well-directed spray-type arc make this electrode a favorite among operators. OS 91K2-H also offers superior puddle control in all positions, virtually effortless slag removal, and excellent bead wetting. Plus, in some instances it can reduce the level of preheat normally used on crack-sensitive steels. Uses include welding HY-80 and ASTM A710 type steels.



"I have finally had the opportunity to try Outershield 71 Elite. It is the finest E71T-1 flux-cored wire I have ever used. It puts all other wires to shame. Its velvety smooth arc and puddle, low spatter, and low smoke make it the best on the market. It also makes the most beautiful dome-like weld reinforcement. Even if you get a slight increase or decrease in wire speed the wire knows exactly what to do. I call it the "SMART WIRE". This wire has made welding exciting for me again.

Robert Panvelle
G.M. Welding Service
Morgan City, LA

Flux-Cored, Self-Shielded Wires

Electrode Name	AWS Classification	General Description
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General Purpose Welding – All Position

Innershield NR-202	E71T-7	Good all position welding wire. Can make very small welds at high travel speeds. Cost-effective tacking wire for joining carbon steel.
Innershield NR-211-MP	E71T-11	One of our most popular all-purpose Innershield wires. Versatile wire suitable for all-position welding of light gauge steel or thin plate up to 1/2" (12.7mm). Low spatter and excellent weld appearance.
Innershield NR-212	E71TG-G	A good choice for general purpose, all-position welding. Produces smooth welds with excellent appearance. Designed for single and multiple pass semi-automatic and automatic welding of mild steel, sheet metal, plate and coated steel up to 3/4 in. (19.0mm). Low spatter level. Handles poor fit-up well.

General Purpose Welding – High Deposition

Innershield® NR®-311	E70T-7	Very high deposition rates and fast travel speeds. Welds thicker mild steels and some low alloy steels. Good bead shape and easy slag removal.
Innershield NS-3M	E70T-4	The highest deposition rate wire designed for automatic and semiautomatic welding on mild steel and some low alloy steels. Resistant to cracking on high sulfur steel and porosity on mildly rusty, oily or dirty plates. Soft, low arc with shallow penetration.

Structural Fabrication Welding – CVN Properties – All Position

Innershield® NR®-203MP ⁽¹⁾	E71T-8J	Great for all-position single and multiple pass welding with mild steel and some low alloy steels. Handles poor fit-up on heavy wall tubes and gaps up to 3/8" (9.5mm) with 1/4" (6.4mm) offset. Excellent Charpy V-Notch properties.
Innershield NR-203 Nickel (1%) ⁽¹⁾	E71T8-Ni1	Use for all-positions. For single and multiple pass welding on mild steel and some low alloy steels. Performs well in automatic and semiautomatic applications. Produces a nickel bearing weld deposit with Charpy V-Notch properties. Can weld gaps up to 3/8" (9.5mm).
Innershield NR-232 ⁽¹⁾	E71T-8	High deposition rate out-of-position welding. Designed for single and multiple pass welding of 3/16" (4.8mm) and heavier mild steel, as well as some low alloy steels. Self-peeling slag. Excellent Charpy V-Notch properties.







(1) Meets minimum Charpy V-Notch properties recommended in the "Seismic Provisions for Structural Steel Buildings" by AISC, dated April 15, 1997.

Flux-Cored, Self-Shielded Wires


Electrode Name	AWS Classification	General Description
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Structural Fabrication Welding – CVN Properties – All Position, con't.

Innershield NR-233 	 E71T-8	NR-233 is an advanced technology, self-shielded flux-cored electrode, designed for high deposition rate welding, even when out-of-position. The electrode is welder-friendly, making it easier to pass tough qualification tests and deposit great looking beads. It does all this while delivering Charpy V-Notch properties that meet many of the more stringent codes and specifications.
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Innershield NR-550-H 	 E81T8-Ni2	NR-550-H is a self-shielded wire designed for use in all positions. It is designed to be used with 80k tensile steel and can deliver deposition rates of up to 6.9 lbs/hr. NR-550-H has good Charpy impact values that allow it to be used in welding applications such as structural steel fabrication in seismic zones. It also has low temperature impact properties and low hydrogen levels.
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Structural Fabrication Welding – CVN Properties – High Deposition

Innershield NR-305 ⁽²⁾ 	E70T-6	Great for downhand welding applications where high deposition rates and Charpy V-Notch properties are desired. Designed for use with mild steel and some low alloy steels for single and multiple pass, automatic and semi-automatic welding. Excellent operator appeal.
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Innershield NR-311 Ni ⁽¹⁾	E70T7-K2	Similar to NR-311, but with good Charpy V-Notch properties. High deposition rates. Fast travel speeds. For single and multiple pass welding.
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High Speed Single Pass Welding

Innershield® NR®-1 & NR-5	E70T-3	Good for high speed flat and horizontal single pass automatic welding applications, NR-1 is especially good on circumferential welds with overlapping. Recommended for materials thicknesses up to 3/16" (4.8mm).
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Innershield NR-131	E70T-10	For automatic and semiautomatic high speed, single pass welding on sheet metal with a thickness of .110" (2.8mm) or more. A solid performer for twin arc welding applications, especially in flat, horizontal, and automatic round-about positions. High deposition rates and travel speeds.
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Innershield NR-152	E71T-14	Designed for high speed, single pass automatic and semiautomatic welding on materials from .030 - 3/16" (0.8 - 4.8mm). A good choice for galvanized, specialty zinc-coated or aluminized carbon steels.
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Pipe Fabrication

Innershield NR-207 & NR-207-H	E71T8-K6 E71T8-K6 H8	Optimum performance on vertical down, hot, fill and cap passes on standard cross-country pipelines and arctic grade pipe. Excellent crack resistance and CTOD and Charpy V-Notch properties. Recommended API Pipe Grade X42 through X70.
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(1) Meets minimum Charpy V-Notch properties recommended in the "Seismic Provisions for Structural Steel Buildings" by AISC, dated April 15, 1997.
 (2) Only 3/32" NR-305 is recommended for FEMA 353 applications.

Stainless Steel Stick Electrode

These electrodes have a distinctive red coating. This coating is uniquely formulated for outstanding resistance to moisture pick-up and resulting starting porosity. Optimized for all position welding.

Electrode Name	AWS Classification	Recm'd Polarity	General Description
<i>Red Baron® Stick</i>			
Red Baron 308L MR	E308L-16	DC+ AC	Red Baron 308L MR is a low carbon version of Red Baron 308/308H MR, which gives it better resistance to intergranular corrosion than the higher carbon deposits. A good all-position stick electrode, except vertical down.
Red Baron 308/308L-V MR	E308-15, E308L-15	DC+	Slag control is second to none with this stick electrode. Designed specially for vertical down welding of 304 and 304L stainless steels. Can also be used on other common austenitic stainless steels referred to as "18-8" steels. Low heat input makes this stick electrode perfect for joining thin gauge materials and pipe.
Red Baron 308/308H MR	E308-16, E308H-16	DC+ AC	Red Baron 308/308H MR is intended for joining 304 and 304L stainless steels. Can also be used on other common austenitic stainless steels referred to as "18-8" stainless. Improved high temperature strength and exceptional all-position welding capability, except vertical down.
Red Baron 309/309L MR	E309-16, E309L-16	DC+ AC	This stick electrode is designed for joining stainless steels to carbon steels or stainless steels to low alloy steels. All-position electrode, except vertical down.
Red Baron 309/309L-V MR	E309-15, E309L-15	DC+	Slag control is second to none with this stick electrode, designed specially for vertical down welding of stainless steels to carbon steels or stainless steels to low alloy steels. Low heat input makes this stick electrode a great choice for joining thin gauge materials and pipe.

Stainless Steel Stick Electrode

Electrode Name	AWS Classification	Recm'd Polarity	General Description
<i>Red Baron® Stick, cont.</i>			
Red Baron 310 MR	E310-16	DC+ AC	Red Baron 310 MR electrode has a very high alloy content consisting of 25% chromium and 20% nickel. Ideal for joining types 310S and 310H wrought and type CK-20 castings in all welding positions, except vertical down.
Red Baron 316/316L MR	E316-16	DC+	Red Baron 316/316L is designed for welding extra low carbon molybdenum bearing austenitic stainless steels, such as type 316 and 316L. Welds in all positions, except vertical down.
Red Baron 316/316L-V MR	E316-15, E316L-15	DC+	Red Baron 316/316L-V MR is designed specially for vertical down welding of extra low carbon molybdenum bearing austenitic stainless steels, such as type 316 and 316L. The low heat input of this electrode makes it a great choice for joining thin gauge materials and pipe.
Red Baron 347 MR	E347-16	DC+ AC	This stick electrode is great for joining type 347 or 321 wrought steel and CF-8C cast steel. Added niobium (columbium) provides increased protection against chromium carbide precipitation along grain boundaries. Exceptional all-position welding, except vertical down.

Stainless Steel Stick Electrode

The Blue Max AC-DC series of stainless steel electrodes is characterized by their distinctive blue coating and spray type metal transfer. These electrodes can be lightly dragged, if desired, on the surface of the base metal with no fear of freezing to the weld. The 3/16" diameter size is generally limited to flat and horizontal welding.

Electrode Name	AWS Classification	Recm'd Polarity	General Description
Blue Max® Stainless Steel Stick Electrodes			
Blue Max 308/ 308L AC-DC	E308-17, E308L-17	DC+ AC	Blue Max 308/308L stick electrode is ideally suited for joining 304 and 304L stainless steels. Can also be used on other common austenitic stainless steels referred to as "18-8". Designed for all-position welding, except vertical down.
Blue Max 309/ 309L AC-DC	E309-17 E309L-17	DC+ AC	Blue Max 309/309L stick electrode is ideally suited for joining carbon steels or low alloy steels to stainless steels. Designed for all-position welding, except vertical down.
Blue Max 316/ 316L AC-DC	E316-17, E316L-17	DC+ AC	Blue Max 316/316L stick electrode, with its distinctive blue coating, is for joining 316 and 316L stainless steels. Designed for all-position welding, except vertical down.
Blue Max 347 AC-DC	E347-17	DC+ AC	Blue Max 347 stick electrode, with its distinctive blue coating, contains ample niobium (columbium), which provides added corrosion protection over and above the protection from the low carbon content. Designed for all-position welding, except vertical down.
Blue Max 2100	—	DC+ AC	Blue Max 2100 is designed for "hard-to-weld" applications. It provides high resistance to cracking, yet high strength when joining steels that are normally difficult to weld. Designed for all-position welding, except vertical down.

Stainless Steel Wires

Lincoln Electric's Blue Max gas-shielded, flux-cored wires are premium quality wires for welding of stainless steels. They are characterized by their ease of operation, low spatter, easy slag removal and excellent bead appearance. The Blue Max FC wires are designed for downhand and horizontal positions. The Blue Max FCP wires are designed for all position welding, especially vertical-up and overhead.

Electrode Name	AWS Classification	Recm'd Polarity	General Description
<i>Blue Max® Gas-Shielded, Flux-Cored Wires</i>			
Blue Max FC-308L	E308LT0-1, E308LT0-4, E308T0-1, E308T0-4	DC+	Blue Max FC-308L wire is optimized for joining 304 and 304L stainless steels and other common "18-8" stainless steels in the downhand and horizontal positions. This wire provides attractive operation and a low carbon deposit.
Blue Max FC-309L	E309LT0-1, E309LT0-4, E309T0-1, E309T0-4	DC+	This wire is a great choice for joining carbon or low alloy steels to austenitic stainless steels in the downhand and horizontal positions. It has excellent operating characteristics and a low carbon weld deposit.
Blue Max FC-316L	E316LT0-1, E316LT0-4, E316T0-1, E316T0-4	DC+	FC-316L wire is designed for joining 316 and 316L wrought stainless steels in the downhand and horizontal welding positions. It has a low carbon weld deposit and excellent operating characteristics.
Blue Max FCP-308L	E308LT1-1, E308LT1-4, E308T1-1, E308T1-4	DC+	This wire is designed for welding 304 and 304L stainless steels and other common "18-8" stainless steels, in out-of-position applications, especially vertical-up and overhead. The right choice for applications involving a variety of positions, without procedure change.
Blue Max FCP-309L	E309LT1-1, E309LT1-4, E309T1-1, E309T1-4	DC+	Blue Max FCP-309L is designed for welding carbon and low alloy steels to austenitic stainless steels. Optimized for welding in out-of-position applications, especially vertical-up and overhead. Applications can be welded without procedure adjusting for each position change.
Blue Max FCP-316L	E316LT1-1, E316LT1-4, E316T1-1, E316T1-4	DC+	Blue Max FCP-316L wire is designed for out-of-position joining of types 316 and 316L stainless steels, especially in the vertical-up and overhead positions. Excellent choice when the job calls for several position changes — no need to adjust procedures.

Stainless Steel Wires

Electrode Name	AWS Classification	Recm'd Polarity	General Description
<i>Stainless Steel Gas-Shielded, Metal-Cored Wire</i>			
Outershield MC-409	EC409	DC+	Outershield MC-409 is designed for single pass welding of 409 stainless steel, used on exhaust systems in the automotive industry.
Outershield MC-409W	EC409	DC+	Outershield MC-409W is designed for single pass welding of 409 stainless steel, used on exhaust systems in the automotive industry. MC-409W has improved bead wetting on certain applications compared to MC-409.
<i>Blue Max® MIG Wires</i>			
Blue Max stainless steel MIG wires can be used for all position welding. Globular and spray transfer are recommended for downhand and horizontal only. Short circuiting mode and pulsed arc can be used for out of position welding. Gas shielding mixtures recommended are either Argon and Oxygen blend for spray and pulsed transfer, or a Helium-rich blend for short circuiting and STT welding.			
Blue Max MIG 308LSi	ER308Si, ER308LSi	DC+	This premium quality MIG wire is for joining 304 and 304L and other common "18-8" austenitic stainless steels. It is specially processed for superior feeding and arc stability.
Blue Max MIG 309LSi	ER309Si, ER309LSi	DC+	Blue Max MIG 309LSi is a premium quality MIG wire ideally suited for joining mild steel or low alloy steel to stainless steel. This wire is specially processed to provide superior feeding and arc stability.
Blue Max MIG 316LSi	ER316Si, ER316LSi	DC+	When joining 316 and 316L stainless steels with the MIG process, Blue Max MIG 316LSi is the answer. This premium quality wire is specially processed to provide superior feeding and arc stability.

Stainless Steel Wires

Blue Max® stainless steel wires are designed for use in submerged arc welding, both with chromium-compensating fluxes like ST-100, and with highly basic unalloyed fluxes like 880, 882, 801, 802 and Blue Max 2000.

Electrode Name	AWS Classification	Recm'd Polarity	General Description
Blue Max® Submerged Arc Wire			
Blue Max S308/308L	ER308, ER308L	DC+ DC-	Designed primarily for submerged arc welding with basic fluxes. Balanced chromium and nickel levels provide enough ferrite in the weld metal for high resistance to hot cracking. Recommended Fluxes: Lincolnweld 801, 802, 880, 880M, 882, ST-100, and Blue Max 2000.
Blue Max S309/309L	ER309, ER309L	DC+ DC-	Blue Max S309/309L wire is designed for submerged arc welding with basic fluxes that recover nearly all of the wire chromium in the deposit. Good resistance to hot cracking. Recommended Fluxes: Lincolnweld 801, 802, 880, 880M, 882, ST-100, and Blue Max 2000.
Blue Max S316/316L	ER316, ER316L	DC+ DC-	This wire is designed for submerged arc welding with basic fluxes that recover nearly all of the wire chromium in the deposit. Good resistance to hot cracking. Recommended Fluxes: Lincolnweld 801, 802, 880, 880M, 882, ST-100, and Blue Max 2000.

Blue Max® and Lincolnweld Submerged Arc & Electroslag Fluxes

Blue Max 2000	—	—	Blue Max 2000 is a neutral basic flux designed for welding the more difficult stainless steels such as 347 and 2205 as well as nickel-based alloys. Maximum toughness and ductility with duplex stainless steels.
Blue Max 3000	—	—	Blue Max 3000 is a chromium alloyed flux for strip cladding where ferrite content of at least 4 FN is desired with 309L strip on carbon steel in one layer.
Blue Max 4000	—	—	Blue Max 4000 is a neutral flux designed for cladding, using the electroslag welding process with stainless steel and nickel based strip electrodes.
Lincolnweld ST-100	—	—	Lincolnweld ST-100 is an alloy flux for use with solid stainless steel wires. It is formulated to compensate for the chromium in the wire that is not recovered in the weld deposit.

Hardfacing Stick Electrode

Electrode Name	Hardness Rockwell C	General Description
<i>Build-Up</i>		
Wearshield® BU	23-28	For carbon and low alloy steels. Builds up worn steel parts to produce tough, forgeable, machinable surfaces of moderate hardness.
Wearshield BU-30	31-38	Moderate hardness to resist shock. Used as final overlay on parts which must be machine or forged. For mild, medium carbon, low alloy and high tensile steels.
<i>Metal-To-Metal Wear</i>		
Wearshield MM	52-58	Martensitic deposit. Heat treatable weld metal. Can be tempered, annealed. Can be used on carbon and low alloy steels.
Wearshield MM40	38-45	Resists metal-to-metal wear under light abrasion and impact conditions. Buildup worn carbon and low alloy steel parts or as final overlay on Wearshield BU or BU-30 buildup deposits.
Wearshield MI	50-58	Provides wear-resistant surface of martensite, with substantial retained austenite. Resists metal-to-metal wear, impact, mild abrasion. Can be used on carbon and low alloy steels.
Wearshield T&D	58-65	Deposit similar to Type M-1 tool steel. Air hardening. Resists metal-to-metal wear up to 1000°F (538°C).
Wearshield C21 C21 (bare)	25 25	Deposit of cobalt-chromium-molybdenum-nickel alloy. Principal application is resisting metal-to-metal wear, in a severe corrosion environment and/or at high temperature. C-21 (bare) is an uncoated rod for gas tungsten arc hardfacing.

Hardfacing Stick Electrode

Electrode Name	Hardness Rockwell C	General Description
<i>Severe Abrasion</i>		
Wearshield® 60	60-65	Excellent abrasion resistance. Fuses to carbon, low alloy, stainless, manganese steel. Limit 2 layers. Use BU, Mangjet or 15CrMn for preliminary layer(s).
Wearshield 70	69	Resists very severe abrasion at temperatures up to 1400°F (760°C). Use with mild, low alloy, stainless and austenitic manganese steels. Limit 2 layers.
Wearshield C1 C1 (bare)	50	Provides a near-eutectic deposit of cobalt alloy and carbides. Resists abrasion at high temperatures
Wearshield CC	56-62	Applied Oxy-Fuel on tillage tools. Produces chrome carbide deposits with excellent abrasion resistance and low coefficient of friction-deposits.
WC Tungsten Carbide Coated, WC Tungsten Carbide Bare, WC Bulk Tungsten Carbide Granules	58-65	Designed especially for manual weld overlays. Resists severe abrasion. For carbon, low alloy, stainless and manganese steels. Coated rods are for arc welding, bare rods are for oxy-fuel or TIG welding, and bulk granules are for MIG carbide welding.
<i>Metal-To-Earth</i>		
Wearshield ME	49-59	Use on carbon and low alloy steels, cast iron, austenitic manganese and austenitic stainless steels. Use BU or 15CrMn for preliminary layer(s).
<i>Severe Impact</i>		
Wearshield® Mangjet®	17-20	For building up austenitic manganese steel and cladding carbon steel. Pounding in service work hardens the deposit to develop maximum hardness and abrasion resistance (40 - 50 Rc).
Wearshield 15CrMn	17-20	For austenitic manganese steel to resist severe impact or gouging even in single layer over carbon steel, with excellent crack resistance. Joining of manganese steel to itself or carbon or low alloy steel. Work hardens to 40-50 Rc.
Wearshield® Frogmang®	20-23	Provides high alloy austenitic manganese steel buildup to resist severe impact. Specifically designed for rebuilding rail frogs and crossings. Work hardens to 44-55 Rc.

Hardfacing Stick Electrode

Electrode Name	Hardness Rockwell C	General Description
<i>Abrasion Plus Impact</i>		
Wearshield® ABR	28-53	Versatile electrode producing good resistance to abrasion and moderate impact. Good hot-forging properties. Hardness will vary depending on cooling rate.
Wearshield 44	42-48	Moderate hardness to resist abrasion under impact at temperatures up to 1100°F (593°C). Good spalling resistance on two or more layers.
Wearshield 420	51-53	Provides a martensitic deposit similar to 420 stainless steel. Abrasion resistance under conditions of corrosion, abrasion and impact. Can be used on carbon and low alloy steels and martensitic stainless steels.
Wearshield C6 C6 (bare)	40	Provides a deposit of primary solid solution cobalt alloy with eutectic carbides. Resists high temperature abrasion with impact or metal-to-metal wear. C6 (bare) is an uncoated rod for gas tungsten arc hardfacing.
Wearshield SM80	45-60	Designed specifically for surfacing and resurfacing crushing rolls in the sugar cane industry.

Hardfacing Flux-Cored Wires

Electrode Name	Hardness Rockwell C	General Description
<i>Build-Up</i>		
Lincore® BU	85-95 R _B	For rebuilding worn parts to near final size before applying final hardfacing layer(s), which is more wear resistant. Use on carbon, low alloy steels.
Lincore BU-G	20-35 R _C 30-42 ⁽¹⁾ R _C	Gas-shielded cored wire for build-up of mild steel and low alloy steel parts to bring them to file dimensions, or for metal-to-metal wear.
Lincore 33	28-34 R _C	For build-up prior to hardfacing. Use on carbon and low alloy steels. Can be used under 802, 803, 880M flux.
<i>Metal-To-Metal Wear</i>		
Lincore 40-O	40-45 ⁽¹⁾ R _C	Bridges the hardness gap between Lincore 33 and Lincore 55.
Lincore 55	56-62 ⁽¹⁾ R _C	Hardfacing overlay to resist rolling, sliding, and metal-to-metal wear. For carbon, low alloy, manganese steels. Can be used under 802, 803, 880M flux.
Lincore 55-G	48-60 R _C	Gas-shielded cored wire. Martensitic low alloy steel deposit for resistance to metal-to-metal wear. Despite the high hardness, crack-free deposits can be obtained with proper preheat, interpass temperature control, and post-weld cooling.
Lincore T&D	48-65 R _C	For rebuilding tools and dies and for putting tool steel surface on carbon and low alloy steels.

(1) Hardness range given is work hardened. As-welded hardness range would be significantly lower, typically around 22 R_C.

Hardfacing Flux-Cored Wires

Electrode Name	Hardness Rockwell C	General Description
Severe Impact		
Lincore® Frogmang®	40-50 ⁽¹⁾ R _C	Self-shielded, cored wire. High alloy austenitic manganese composition for resistance to severe impact. Ideal for rebuilding worn manganese rail frogs, diamonds and switches.
Lincore Frogmang-G	20-30 R _C as deposited, 40-50 R _C work hardened	Gas-shielded cored wire. High alloy austenitic manganese composition for resistance to severe impact. Ideal for rebuilding worn manganese rail frogs, diamonds and switches.
Lincore M	40-48 ⁽¹⁾ R _C	Produces austenitic manganese steel deposit. Rebuild/join manganese steel. Limit interpass to 500° F.
Lincore 15CrMn	40-50 ⁽¹⁾ R _C	Provides impact resistance on carbon, low alloy, austenitic manganese and stainless steels. Good for joining manganese steels. Limit interpass to 500° F.
Severe Abrasion		
Lincore 60-0	55-60 R _C	Hardfacing carbon, low alloy, manganese, and stainless steels. Limit 2 layers.
Lincore 65-0	60-65 R _C	Resists dilution better than 60-0. Check cracks are desired to relieve stress.
Lincore 60-G	57-61 R _C	Gas-shielded, metal-cored wire for hardfacing carbon, low alloy, manganese and stainless steels.
Abrasion Plus Impact		
Lincore 50	48-52 R _C	Use on low carbon, medium carbon, low alloy, manganese, and stainless steels.

⁽¹⁾ Hardness range given is work hardened. As-welded hardness range would be significantly lower, typically around 22 R_C.

Hardfacing Submerged Arc Wires

Lincore® wires for submerged arc hardfacing are designed for use with specific Lincoln fluxes to provide optimum deposit composition, hardness and microstructure for a variety of applications.

Electrode Name	Hardness Rockwell C	General Description
<i>Build-Up</i>		
Lincore® 20	22-28 R _C	For build-up on continuous caster rolls for the steel industry, with 801, 802 or 880 flux.
Lincore 30-S	24-32 R _C	For build-up on tractor idler rolls, crane wheels, shafts, with 801, 802, 880 or 860 flux.
Lincore 32-S	28-36 R _C	For two to three layer build-up on 4140 steel drill stems, with 802 or 803 flux.
Lincore 35-S	34-42 R _C	For build-up on tractor idler rolls, crane wheels, shafts, with 801, 802 or 880 flux. Suitable for flame hardening.
Lincore 4130	18-24 R _C	For build-up for plate, rolls and sheaves, with 801, 802 or 880 flux. Suitable for flame hardening.
Lincore 8620	16-22 R _C	For build-up on continuous caster rolls for the steel industry, with 801, 802 or 880 flux.

Hardfacing Submerged Arc Wires

Electrode Name	Hardness Rockwell C	General Description
<i>Metal-To-Metal Wear</i>		
Lincore® 40-S	36-42 Rc	For hardfacing of tractor undercarriage parts and links with 801, 802 or 880 flux.
Lincore 42-S	38-44 Rc	For hardfacing of tractor undercarriage parts and links with 801 or 802 flux.
Lincore 96S	48-56 Rc	For hardfacing continuous caster and work rolls for steel mills with 801 or 802 flux. 12% Cr deposit also resists corrosion.
Lincore 102W	48-56 Rc	For hardfacing work and transfer rolls for steel mill with 802 flux. Tool steel deposit resists softening in PWHT.
Lincore 102HC	53-60 Rc	For hardfacing work and transfer rolls for steel mill with 802 flux. Tool steel deposit resists softening in PWHT.
Lincore 410	28-36 Rc	For hardfacing continuous caster and work rolls for steel mills with 801 or 802 flux. 12% Cr deposit also resists corrosion.
Lincore 410NiMo	30-38 Rc	For hardfacing continuous caster and work rolls for steel mills with 801 or 802 flux. 12% Cr deposit also resists corrosion.
Lincore 420	44-52 Rc	For hardfacing continuous caster and work rolls for steel mills with 801 or 802 flux. 12% Cr deposit also resists corrosion.
Lincore 423L	41-47 Rc	For hardfacing continuous caster and work rolls for steel mills with 802 flux. 11.5% Cr deposit also resists corrosion. Contains vanadium for resistance to softening.
Lincore 432Cr	41-47 Rc	For hardfacing continuous caster and work rolls for steel mills with 802 flux. 13.5% Cr deposit also resists corrosion. Contains vanadium for resistance to softening.
Lincore 424A	37-43 Rc	For hardfacing continuous caster and work rolls for steel mills with 802 flux. 13% Cr deposit also resists corrosion.

Severe Abrasion

Lincore 60-S	55-60 Rc	For hardfacing crusher rolls, ore chutes, and blast furnace bells and hoppers. Use with 803 flux.
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Submerged Arc Consumables



- *Controlled Chemistry for Wire Electrodes and Flux*
- *Consistent Wire Electrode Diameter*
- *Controlled Flux Grain Size*
- *Controlled Dust Levels*
- *Engineered Particle Integrity*
- *Complete Submerged Arc Solutions You Can Trust*

Submerged Arc

Wire	AWS ASME Class	AWS Wire Composition Limits ⁽¹⁾													
		%C	%Mn	%Si	%Cr	%Ni	%Mo	%Ti	%Zr	%Al	%V	%S	%B	%P	%Cu

Lincolnweld® Carbon Steel Electrodes (Chemistry)

Lincoln Electrode Classifications per AWS A5.17-97

L-50	EM13K	.06-.16	.90-1.40	.35-.75	---	---	---	---	---	---	---	.030	---	.030	.35
L-56	EH11K	.06-.15	1.40-1.85	.80-1.15	---	---	---	---	---	---	---	.030	---	.030	.35
L-60	EL12	.04-.14	.25-.60	.10	---	---	---	---	---	---	---	.030	---	.030	.35
L-61	EM12K	.05-.15	.80-1.25	.10-.35	---	---	---	---	---	---	---	.030	---	.030	.35
LA-71	EM14K	.06-.19	.90-1.40	.35-.75	---	---	---	.03-.17	---	---	---	.025	---	.025	.35
LC-72 ^(2,3)	EC1	.15	1.80	.90	---	---	---	---	---	---	---	.035	---	.035	.35
L-S3	EH12K	.06-.15	1.50-2.0	.25-.65	---	---	---	---	---	---	---	.025	---	.025	.35

Lincolnweld® Low Alloy Electrodes (Chemistry)

Lincoln Electrode Classifications per AWS A5.23-97

L-70	EA1	.05-.15	.65-1.00	.20	---	---	.45-.65	---	---	---	---	.025	---	.025	.35
LA-75	ENi1K	.12	.80-1.40	.40-.80	---	.75-1.25	---	---	---	---	---	.020	---	.020	.35
LA-81 ⁽⁴⁾	EG	.05	1.2	.2	---	---	.5	.1	---	---	---	---	.01	---	.20
LA-82	EF2	.10-.18	1.70-2.40	.2	---	.40-.80	.40-.65	---	---	---	---	.025	---	.025	.35
LA-85	ENi5	.12	1.20-1.60	.05-.30	---	.75-1.25	.10-.30	---	---	---	---	.020	---	.020	.35
LA-90	EA3K	.05-.15	1.60-2.10	.50-.80	---	---	.40-.60	---	---	---	---	.025	---	.025	.35
LA-92	EB2	.07-.15	.45-1.00	.05-.30	1.00-1.75	---	.45-.65	---	---	---	---	.025	---	.025	.35
LA-93	EB3	.05-.15	.40-.80	.05-.30	2.25-3.00	---	.90-1.10	---	---	---	---	.025	---	.025	.35
LA-100	EM2	.10	1.25-1.80	.20-.60	.30	1.40-2.10	.25-.55	.10	.10	.10	.05	.015	---	.010	.25

⁽¹⁾ Single values are maximums.

⁽²⁾ LC-72 is a flux-cored electrode.

⁽³⁾ Limits are for weld metal deposited with a particular flux.

⁽⁴⁾ No AWS limits. Values are typical.

Submerged Arc

The primary use for active fluxes is to make high quality single pass welds. They can be used for multiple pass welding on plate with a maximum thickness of 1 in. (25.4 mm).

Electrode Name	General Description
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Fluxes – Active

760	Recommended for applications where porosity caused by arc blow is a problem. Produces excellent appearance on flat fillet welds when using a constant voltage power source.
761	Weld deposits are usually low carbon, fairly high manganese and have superior crack-resistance, when used with L-61 electrode. 761 produces excellent impact resistance on single pass welds. The slower freezing of 761 slag gives good appearance on large flat fillet welds using either constant or variable voltage power sources. It's a perfect choice for AC and multiple arc (Twinarc) welding.
780	Excellent performance characteristics, including very good slag removal, making it the most common choice for a variety of applications. The faster freezing of 780 slag minimizes spilling on roundabouts and produces a flat face weld on a horizontal fillet weld.
781	Recommended for making high speed, single pass welds on clean plate and sheet steel. The good "wetting" action provides the "Fast-Follow" characteristics needed to make uniform welds at high speed without undercut or voids. 781 should not be used for welding steel contaminated with rust, oil or mill scale.

Submerged Arc

The primary use for neutral fluxes is for multiple pass welding applications.

Electrode Name	General Description
Fluxes – Neutral	
860	Excellent operating characteristics and produces good impact properties when used with L-60 or L-61 electrodes. 860/L-70, & 860/LA-71 deposits produce 70,000 psi tensile strength after stress relieving. 860 is the recommended flux for most double ending applications.
865	865 produces 70,000 psi tensile strength as welded or after short or long term stress relief. 865 flux should be used with L-50 electrode for optimum impact properties, resistance to pockmarking. L-61 may be used on steel free of scale and rust.
880	Recommended for welding with solid low alloy steel electrodes. These electrodes must contain a minimum of 0.20% silicon for proper deoxidation and bead appearance. 880 flux is also used with Lincoln's LAC series of low alloy flux-cored electrodes, with Lincore® 30-S, 35-S, 40-S and 50 flux-cored hardfacing electrodes. Should not be used single arc AC welders.
880M	Recommended for welding with solid carbon steel and low alloy steel electrodes, with Lincoln's LAC series of low alloy flux-cored electrode. It is the best choice for single arc AC welding. 880M is designed to produce excellent mechanical properties, including CTOD's and low temperature impacts, required on many applications.
882	Recommended for welding with solid carbon and low alloy steel electrodes. Recommended for use with electrodes containing low silicon. When used with L-61 electrode it produces deposits with a minimum of 70,000 psi tensile strength in the as-welded condition and excellent low temperature impacts.
MIL 800	Highly basic neutral flux recommended for use with solid mild steel and low alloy steel electrodes. It can be used to obtain excellent mechanical properties, including low temperature impacts. This includes the welding of HY-80 steel with LA-100 electrode. MIL 800 is designed for both single and multiple arc procedures and is qualified as MIL-100S-IF per MIL-E-23765/2D (SH).
MIL 800-H	Can be used to obtain excellent mechanical properties, including low temperature impacts, and very low levels of diffusible hydrogen. The typical level of diffusible hydrogen is less than 2 ml/100 grams of weld metal deposited. MIL800-H is recommended for both single and multiple electrode welding. MIL800-H can also be used to weld horizontal and flat fillets. Welding procedures with MIL800-H require 2-3 volts less than other "800" neutral fluxes. Recommended for welding of HY-80 steel with Lincolnweld LA-100 electrode and is qualified as MIL-100S-2F per MIL-E-23765/2E.
8500	Recommended for multiple pass welding with solid mild steel and low alloy electrodes where good cap pass impacts are required. 8500 flux is recommended for both single and multiple electrode welding. 8500 flux may be used with L-61, L-S3 and LA-85 to meet the requirements of many applications requiring excellent low temperature charpy impacts. This includes the fabrication of offshore drilling platforms. 8500 may also be used on AC applications.

Submerged Arc

Electrode Name	General Description
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Fluxes – Special Purpose Neutral

960	General purpose flux designed to weld butt joints and both single and multiple pass fillets. It can be used for automatic and semiautomatic welding. It produces welds with good impact strength and good slag removal. 960 flux is designed to meet AASHTO Fracture Critical Requirements.
980	Combines many of the features of the 700 and 800 series fluxes, making it an excellent choice for fabricators who desire one flux for automatic and semiautomatic welding throughout the shop. It is intended primarily for welding plain carbon (mild) steel. Exceptional resistance to flash-through and porosity caused by arc blow makes it the best choice for semiautomatic welding. 980 is the preferred flux for deep groove slag removal.

Fluxes – Fabrication of Line Pipe


995	Recommended for single pass, square butt welding such as longitudinal and spiral seams on pipe. It is designed for use with Lincoln L-70 electrode, and intended for single or multiple arc procedures (up to five). 995 is capable of high speed longitudinal seam welding over a range of line pipe steels up to 1-3/4". On applications requiring more than one pass, an "800" series flux is recommended for better multiple pass impact strength. 995 is not intended for general purpose welding or for sheet metal.
995N	Recommended for single pass square butt welding such as longitudinal and spiral seams on pipe greater than 1/2" in thickness. For pipe 1/2" and less, 997 flux is the recommended flux. In particular, 995N flux is recommended with LA-81 electrode for applications requiring a minimum of 50 lbs. impact strength @ -50°F.
997	Special purpose flux intended for square butt welding; longitudinal and spiral seam welding of up to 1" thick. It is designed for square butt welding applications requiring one pass per side, such as seam welds on pipe.
P223	P223 flux has been specifically designed for longitudinal or spiral pipe welding. It is an excellent choice for welding single or multiple passes and single or multiple arc applications up to 3 arcs. The flux is designed to produce an excellent flat bead profile with smooth and consistent weld bead edges. The flux is a fast freezing flux suitable for small diameter pipe as well. You can expect a low hydrogen weld deposit with P223 and can be used with a mild steel or low alloy wire electrode. Due to high dilution rates of 60-70% with the parent metal, the chemical composition of the base material is of major influence on the mechanical properties.

Additional High Performance Fluxes

AXXX10	AXXX10, when used with L-61 electrode, produces a Ni1 deposit for welding ASTM A588 (weathering) steel. The combination conforms to F7A4-EM12K-Ni1 when welded and tested in accordance with AWS A5.23-97.
MIL800-HPNi	MIL800-HPNi is designed to weld high performance steel (HPS70W) used to fabricate bridge girders when used with LA-85 electrode. The low diffusible hydrogen content of the weld deposit (2 ml/100 grams of weld metal) permits the use of reduced preheat and interpass temperatures.

Pipeliner™

The Clear Choice
for Pipe Welding



"This is our first experience using the Pipeliner 8P+ electrode and our operators love it. They prefer the way it rounds out caps better and how the slag is more controlled and won't run ahead of you. Not only is it easier to weld with, but more importantly, it provides high x-ray quality welds. Our transition to the Pipeliner 8P+ has been smooth and I would definitely recommend it to others looking for new pipe welding solutions. Productivity – that's what it is all about – getting it done faster and creating better welds."

Wade Pilgreen, Welder Foreman
Murphy Brothers Incorporated
Chilhowie, Va.

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Pipeliner™ ™

Electrode Name	AWS Classification	Recm'd Polarity	General Description
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Cellulosic All Position Stick (SMAW) Electrodes

Pipeliner 6P+	E6010	DC+	Pipeliner 6P+ is an all-position cellulosic pipe electrode designed especially for vertical down root pass welding. This electrode is based on a long-time favorite among cross-country pipeline welders.
Pipeliner 8P+	E8010-P1	DC+	Here's an electrode that makes short work of even the most challenging high silicon pipe applications! Pipeliner 8P+ is an outstanding choice for API 5L-X56 through X70 grade pipe. This electrode features high stacking efficiency – formulated to carry and deposit weld metal in difficult vertical down out-of-position applications.

Low Hydrogen Stick (SMAW) Electrodes

Pipeliner 16P	E7016 H4	DC+ AC	We designed this quality electrode for optimum performance for vertical up welding of pipe up to API 5L-X65 – especially where a low hydrogen deposit is desired. Obtain Charpy V-Notch impact values down to temperatures of -20°F (-29°C).
Pipeliner 18P	E8018-G H4	DC+ AC	A real workhorse for vertical up welding jobs up to X80 pipe! Lincoln 18P offers low temperature impact properties down to -50°F (-46°C).
Pipeliner Lincoln LH-D80	E8018-G	DC+	Choose Pipeliner Lincoln LH-D80 electrode when you need a dependable stick (SMAW) electrode for vertical down low hydrogen welding on pipe up to X70. Operators appreciate the unique slag system that facilitates easy puddle control with virtually no slag interference.
Pipeliner Lincoln LH-D90	E9018-G	DC+	The product of choice for vertical down, low hydrogen pipe welding for fill and cap passes of high strength pipe up to X80. Operators will appreciate this electrode's unique "hot start" tip with outstanding puddle control.

NOTE: Pipeliner electrodes are manufactured under lot control. A Certificate of Test showing actual deposit chemistry and mechanical properties are available upon request from the factory for every lot of electrode. (Fax 216.383.8386).

Pipeliners™ ™

Electrode Name	AWS Classification	Recm'd Polarity/ Shielding Gas	General Description
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MIG (GMAW) Electrodes

Pipeliners 70S-G	ER70S-G		Pipeliners 70S-G MIG (GMAW) wire electrode is especially intended and packaged for the needs of semiautomatic and automatic root pass pipe welding. Delivering low hydrogen deposits, 70S-G exhibits an extremely fluid puddle for outstanding wash-in at the weld toes, uniform bead shape and virtually no slag. Well-suited for use on API 5L-X56 through X70 pipe.
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Innershield® Self-Shielded Flux-Cored (FCAW-S) Electrodes

Pipeliners NR-207+	E71T8-K6	DC-	Optimum performance on vertical down hot, fill and cap passes on standard cross-country pipelines and arctic grade pipe. Excellent crack resistance, CTOD, and Charpy V-Notch properties. Recommended for API Pipe Grades X42 through X70.
Pipeliners NR-207XP	E71T8-K6	DC-	For consistently high impact values, choose 207XP. Optimum performance on vertical down, hot, fill and cap passes on standard cross-country pipelines and arctic grade pipe. Recommended for API Pipe Grades X42 through X70.

Outershield® Gas-Shielded Flux-Cored (FCAW-G) Electrodes

Pipeliners G70M	E71T-1MJH8 E71T-9MJH8	DC+ 75-80% Ar/ balance CO ₂	Pipeliners G70M is designed to deliver outstanding weld properties for semiautomatic applications. Robust impacts mean consistently high CVN values.
Pipeliners Autoweld G70M	E71-T-1MJH8 E71T-9MJH8	DC+ 75-80% Ar/ balance CO ₂	Pipeliners Autoweld G70M is specifically designed for use with the Autoweld pipe welding system to deliver outstanding weld properties.

Submerged Arc (SAW) Electrode and Flux

Pipeliners L-61 / 860	F7A4-EM12K-H8		Pipeliners L-61/860 is well-suited for internal and external submerged arc pipe double ending welds on API 5L pipe grades X42 through X60. The use of Pipeliners L-61/860 submerged arc wire/flux in double ending operations reduces the number of field joints per unit length and cuts time from your pipe laying project.
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NOTE: Pipeliners electrodes are manufactured under lot control. A Certificate of Test showing actual deposit chemistry and mechanical properties are available upon request from the factory for every lot of electrode. (Fax 216.383.8386).

Educational Programs

Gain access to Lincoln Electric's accumulated wealth of knowledge and expertise through our expansive offering of training programs. Our Application Engineering Group provides standard and customized training that addresses the needs of welders, supervisors, engineers, owners and distributors.

Technical and Professional Seminars

Stay up-to-date with the latest welding technology by attending our technical seminars. This includes general overview programs or more focused programs on such topics as welding and fabricating of aluminum, stainless steel, nickel alloys, high productivity MIG or sub-arc welding. Also attend one of our popular Omer Blodgett professional seminars. These classes, held for over 50 years, inform participants of the latest in engineering practices and concepts, ranging from the fundamentals of weldments design to advanced subjects such as fracture mechanics and fatigue.



Distributor Training

Lincoln offers a variety of training programs for our network of distribution. These classes update our authorized distributors on welding processes and the Lincoln product line. They are conducted both at our Cleveland headquarters and in the field at our various District Sales Offices. Whether you are new to the welding industry or a thirty-year veteran, we can offer a program that you will find educational, challenging and help improve your sales.



Welding School

Since 1917, The Lincoln Electric Welding School has instructed over 100,000 students from around the world in the arts of arc welding safety and processes. The school offers individual and comprehensive classes on all the main arc welding processes, from basic stick to submerged arc welding. In addition, special motor sports classes, certification classes and customized on-site training programs are offered. For welding educators, ask about our popular and free "Teacher Observer Program".



Educational Materials

Lincoln Electric also offers a full range of educational materials for all your welding training needs. Whether you need videos, textbooks or computer based training materials, Lincoln has the answer.

Process Training Materials

NEW!

Lincoln Electric is proud to introduce a complete welding process training program that is user-friendly for instructors and effective for students. It is the only training program available that is AWS EG2.0-95 (S.E.N.S.E.) compatible (learning objectives 1-4). It is designed and authored by the welding experts at Lincoln and is in modular format for easy customization. It is available in various teaching formats, including CD-ROM, 35mm slides and overhead transparencies. Programs are available for the SMAW, GTAW, GMAW, FCAW, SAW and Oxy-Fuel processes.



Book Store

A comprehensive selection of textbooks, videos, posters and other training aids are available from Lincoln Electric's bookstore or the James F. Lincoln Arc Welding Foundation. Included in this list is the "Procedure Handbook", now in its 14th edition. Since the 1st edition in 1933, it has provided knowledge to welding people throughout the world with sales in excess of 500,000 copies.



Information and Registration

For more detailed information on all of our educational programs and materials, as well as registration forms, please see our booklet ED122. You may also access this information and registration through our website (www.lincolnelectric.com), our toll free number (800-833-9353) or by contacting your local Lincoln Electric District Sales Office.



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Important Information On Our Website

Consumable AWS Certificates:

<http://www.lincolnelectric.com/products/certificates/>

Material Safety Data Sheets (MSDS):

<http://www.lincolnelectric.com/products/msds/>

Arc Welding Safety Checklist:

<http://www.lincolnelectric.com/community/safety/>

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<http://www.lincolnelectric.com/knowledge/articles/content/lenstaybl.asp>

Request E205 Safety Booklet:

<http://www.lincolnelectric.com/community/safety/safeform.asp>

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 liability, 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.

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Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.com for any updated information.

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2345 Murphy Blvd., Gainesville, Georgia 30504 U.S.A.
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THE LINCOLN ELECTRIC COMPANY

22801 St. Clair Ave., Cleveland, OH 44117-1199, (216) 481-8100
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