

Multi-Weld™ 350

Connect Several DC+ Welders to One Power Supply.

The Multi-Weld 350 is a 350 amp, DC+, 100% duty cycle welder capable of CV-wire, CC-stick or arc gouging. With its high efficiency, the Multi-Weld 350 offers an entirely new and better way to build large structures. This unique system offers a cleaner, safer job site, and allows operators to have high performance welding control right where they need it — at the arc.



Processes (DC+ Processes Only)

Stick MIG Flux-Cored Gouging

Advantage Lincoln

- Independent arcs. Starting or stopping one Multi-Weld doesn't affect the welding of the others.
- The Multi-Weld 350 is capable of continuous operation at 350 amps in 122°F (50°C) air temperature.
- No control cables are needed. Single weld cable output from the power source to one or several Multi-Weld 350s.
- Controls are located close to the operator for quick access.
- High efficiency design uses less than half the power of other grid systems.
- Lincoln  Chopper Technology™ for quality welds with instant control of the arc for superior welding results.
- Constant voltage (CV) for MIG or flux-cored wire welding.
- Constant current (CC) for stick welding or arc gouging.
- Additional stick welding controls include hot start, arc force, electrode type selection (E7018 and E6010).
- Arc gouging capability with a single Multi-Weld 350 and up to 5/16" (8.0mm) electrode, or with paralleled units for up to 700 amps of power using a 3/8" (9.5mm) electrode.
- Manufactured under a quality system certified to ISO 9001 requirements and ISO 14001 environmental standards.
- Three-year warranty on parts and labor.

Description

Output   Input 

Recommended General Options

Distribution Box, Welding Cable Connectors, Input Cables, Remote Output Control, Undercarriage

Recommended Power Source Options

SAE-400, Vantage 500, DC-655, DC-1000, DC-1500

Recommended Wire Feeder Options

LN-15 Across-the-Arc, LN-25 Across-the-Arc

Order

K1735-1 Multi-Weld 350

TECHNICAL SPECIFICATIONS

Product Name	Product Number	Input Volts	Rated DC+ Output Current/Voltage/Duty Cycle	Input Current at Rated DC Output (80V DC)	Output Range	Dimensions H x W x D 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)

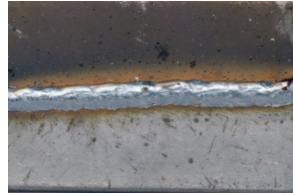
A CLOSER LOOK

SUPERIOR WELDING PERFORMANCE

- Superior starting compliments the soft, stable welding arc yielding very low spatter levels. Chopper control has an extremely fast response for tighter output control than tradition weld control.

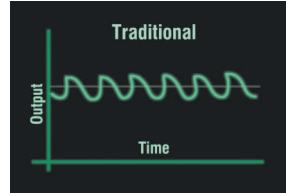


Chopper Technology for extremely fast response for smoother output control.

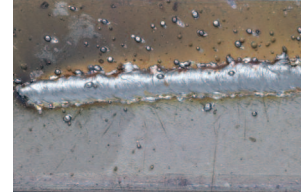


Chopper Technology CV-Wire Mode

- High efficient design and low input current draw means more welding.



Traditional weld control is more variable around the desired output.



Traditional Reactor Technology CV-Wire Mode

Patented and award-winning Lincoln **Chopper Technology** delivers superior DC arc welding performance for general purpose stick, Downhill Pipe, DC TIG, MIG, cored-wire and arc gouging.

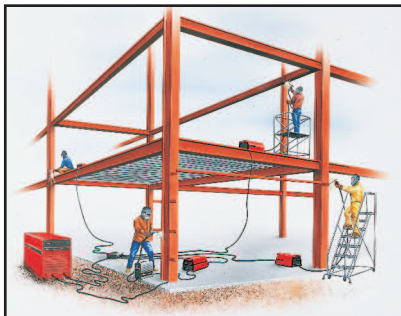
- Benefits of Chopper Technology include:
- Easy arc starting
 - Smooth arc action
 - Low spatter levels
 - Excellent bead appearance

FEATURES

- Each Multi-Weld 350 has easy-to-use controls and a large control knob designed for gloved hands.
- Digital meters show preset values before welding and actual values while welding. Memory holds the values for 5 seconds after welding stops.
- Convenient carrying handles and skids double as extra protection from abuse in the field.

Key Controls

- 1) Large, Easy to Read, Presettable Digital Amp Meter
- 2) Off/CC/CV Switch
- 3) Large, Easy to Read, Presettable Digital Volt Meter
- 4) Input Voltage OK Light
- 5) Large Control Knob for Gloved Hands
- 6) Remote Control Connection
- 7) Optimized Arc Switch for E7018 or E6010 Type Electrodes
- 8) "Pig Tail" Cables for Custom Quick Connectors. Front and rear routings.
- 9) 10 ft. (3m) Work Clamp Lead
- 10) Arc Force Control
- 11) Hot Start Control For Fast and Easy Starts
- 12) Thermal Protection Trip Indicator Light



A single weld cable output from the power source to a distribution box connects several work stations equipped with Multi-Weld 350s.



A CLOSER LOOK

QUALITY AND RELIABILITY

- Printed circuit boards are environmentally-shielded using Lincoln's engineered potting and protective frame trays.
- Thermostat and voltage overload protection.
- Fan-As-Needed – solid state controlled fan operates cooling fan only when needed. Minimizes power consumption, operating noise and dust intake.

SYSTEM SELECTION

HOW MANY KILOWATTS DOES YOUR PROCESS REQUIRE?			
Description	Diameter in. (mm)	Process	Kilowatts Used ⁽¹⁾
Flux-Cored Wire Gas-Shielded	.035 (0.9)	300 ipm WFS, 130A, 24V	3.4
	.035 (0.9)	600 ipm WFS, 195A, 30V	6.4
	.045 (1.2)	300 ipm WFS, 185A, 28V	5.7
		500 ipm WFS, 255A, 29V	8.1
	.052 (1.3)	250 ipm WFS, 210A, 26V	6.0
		450 ipm WFS, 315A, 29V	10.4
	1/16 (1.6)	200 ipm WFS, 255A, 26V	7.3
		350 ipm WFS, 350A ⁽²⁾ , 29V	11.2
Flux Cored Wire Self-Shielded	5/64 (2.0)	200 ipm WFS, 280A, 30V	10.1
		300 ipm WFS, 350A ⁽²⁾ , 32V	13.7
MIG Wire	.035 (0.9)	150 ipm WFS, 120A, 19V	2.5
		250 ipm WFS, 175A, 22V	4.2
	.045 (1.2)	125 ipm WFS, 145A, 19V	3.0
		200 ipm WFS, 200A, 21V	4.6
Stick (7018)	1/8 (3.2)	130A, 27V	3.9
	3/16 (4.8)	225A, 28V	6.9
Stick (7024)	3/16 (4.8)	260A, 27V	7.7
Stick (6010)	1/8 (3.2)	120A, 36V	4.7
		NOTE: E6010 stick electrodes require higher voltage to "whip" properly. Higher voltage power sources are recommended.	
Air Carbon Arc Gouging	1/4 (6.4)	350A ⁽²⁾ , 34V	13.1
	3/8 (9.5)	700A ⁽²⁾ , 34V Requires two Multi-Weld 350s in parallel.	26.2

(1) Power Source KW = $\frac{(KW)_{arc1} + (KW)_{arc2} + (KW)_{arcN(simultaneous)}}{.91 \text{ eff.}}$ = KW input to Multi-Weld 350

(2) Maximum rated output of Multi-Weld 350.

POWER SOURCE/KILOWATTS AVAILABLE

Power Source	Kilowatts Available @60V Output
R3R-400	12
R3R-500	12
DC-600	15
DC-655	36
DC-1000	30
DC-1500	94
Classic 300D	12
SAE-400	22
Vantage 300 ⁽²⁾	4.8
Vantage 500 ⁽¹⁾	5
Air Vantage 500 ⁽¹⁾	5

System Selection is determined by kilowatts available on the power source.

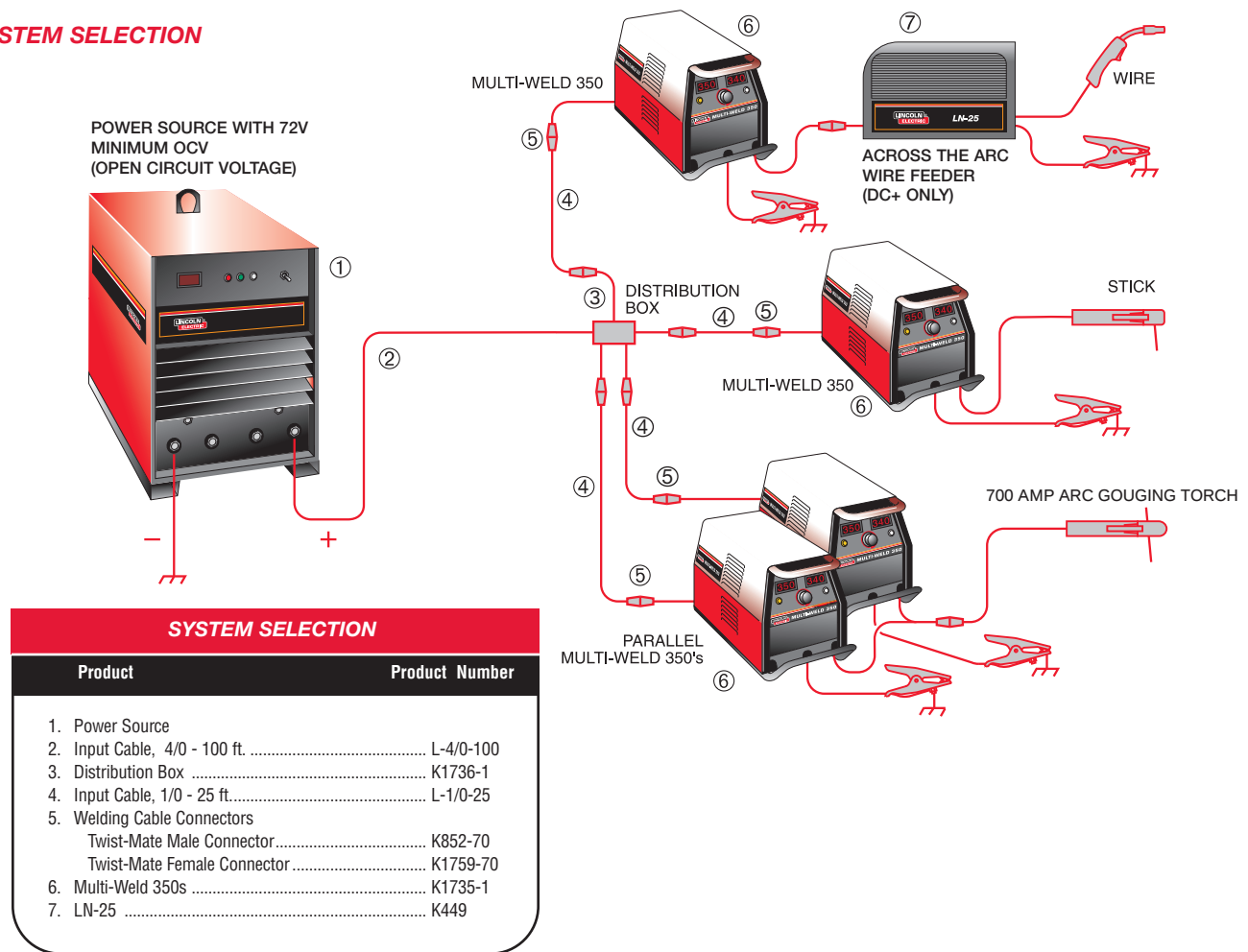
Note: For maximum output, set power source on Constant Current and select maximum output. **Constant Voltage** power sources are not recommended.

(1) Air Vantage and Vantage 500 output is 12 kW @ 58 volts.

(2) Vantage 300 output is 7 kW @ 58 volts.

A CLOSER LOOK

SYSTEM SELECTION



PROCESS CAPABILITIES

Process	Electrode Wire/Stick	Electrode Polarity	Shielding Gas
Mild Steel FCAW Gas-Shielded Wire	.045" (1.2mm) UltraCore 71A75 Dual	Positive (DC+)	CO ₂ or Blended
Mild Steel Composite MIG	.045" (1.2mm) Metalshield MC-6	Positive (DC+)	Blended
Mild Steel FCAW Self-Shielded Wire	5/64" (2.0mm) Innershield® NS-3M Only	Positive (DC+)	None Required (Self-Shielded)
Hardfacing Self and Gas-Shielded	.045 - 5/64" (1.2-2.0mm) Lincore®	Positive (DC+)	As Required
Steel or Stainless SMAW, Stick	3/32" - 1/4" (2.4-6.4mm) Excalibur® 7018 and Fleetweld® 6010	Positive (DC+)	None Required (Stick Electrode)
Mild Steel or Stainless MIG	.025" - .052" (0.6-1.3mm) Super Arc™ L-50 and L-56 and Blue Max™	Positive (DC+)	CO ₂ or CO ₂ Ar Blended or Tri Mix
Aluminum MIG	3/64" - 1/16" (1.2-1.6mm) SuperGlaze™ 4043 and 5356	Positive (DC+)	100% Argon
Air Carbon Arc Gouging	5/32" - 5/16" (4.0-8.0mm)	Positive (DC+)	Compressed Air

GENERAL OPTIONS



Distribution Box
Makes connecting up to 10 Multi-Weld 350's quick and easy. Contains copper bus bar for connecting multiple "pig-tails". Four "pig tails" included.
Order K1736-1



Twist-Mate Cable Plug
For connecting welding cable to output terminal receptacles. For 1/0-2/0 (50-70mm²) cable.
Order K852-70



Twist-Mate Cable Plug
For connecting welding cable to output terminal receptacles. For 2/0-3/0 (70-95mm²) cable.
Order K852-95



Twist-Mate Cable Receptacle
For connecting welding cable to Twist-Mate cable plug. For 1/0-2/0 (50-70mm²) cable.
Order K1759-70



Twist-Mate Cable Receptacle
For connecting welding cable to Twist-Mate cable plug. For 2/0-3/0 (70-95mm²) cable.
Order K1759-95

GENERAL OPTIONS CONT.



Remote Output Control
Provides 25 ft. or 100 ft. (7.6m or 30m) of remote output control. Connects to 6-pin receptacle on front of Multi-Weld 350.
Order K857 — 25 ft. cable.
Order K857-1 — 100 ft. cable.



Undercarriage
Valet style undercarriage with unique pull-out handle. Provides torch cable storage (up to 50 ft. lengths), work cable storage and input cord wrap for the ultimate in portability.
Order K1838-1

WIRE FEEDER OPTIONS



LN-15 Across-The-Arc Wire Feeder
Portable, lightweight, compact CC/CV unit for flux-cored and MIG welding. Includes gas solenoid, adjustable flow meter and internal contactor. For 10-15 lb. (4.5 - 6.8 kg) spools. For more information, see publication E8.60.
Order K1870-1



LN-25 Across-the-Arc Wire Feeder
Designed to run "across-the-arc" with no control cables. This portable wire feeder offers constant wire feed speed in a rugged case. For more information, see publication E8.100.
Order K449

MULTI-WELD SYSTEM ORDER FORM

PRODUCT DESCRIPTION	ORDER NUMBER	QUANTITY	PRICE
MULTI-WELD 350	K1735-1		
Recommended General Options			
Distribution Box	K1736-1		
Twist-Mate Cable Plug 1/0-2/0 (50-70mm ²)	K852-70		
Twist-Mate Cable Plug 2/0-3/0 (70-95mm ²)	K852-95		
Twist-Mate Cable Receptacle 1/0-2/0 (50-70mm ²)	K1759-70		
Twist-Mate Cable Receptacle 2/0-3/0 (70-95mm ²)	K1759-95		
Input Cable, 1/0 - 25 ft. (7.6m)	L-1/0-25		
Input Cable, 4/0 - 100 ft. (30m)	L-4/0-100		
Remote Output Control - 25 ft. (7.6m)	K857		
Remote Output Control - 100 ft. (30m)	K857-1		
Undercarriage	K1838-1		
Recommended Power Source Options			
SAE-400	See publication E6.180		
Vantage 500	See publication E6.216		
DC-655	See publication E5.46		
DC-1000	See publication E5.50		
DC-1500	See publication E5.60		
Recommended Wire Feeder Options			
LN-15 Across-the-Arc	K1870-1		
LN-25 Across-the-Arc	K449		
	TOTAL:		

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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