

# Invertec® V350-PRO



## Designed Smart. Built Tough.

The Invertec® V350-PRO is a versatile, multi-purpose, multi-process power source that's lightweight and portable. Available in Construction, Factory, Factory (Tweco®), and Advanced Process 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<sup>(1)</sup>, 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, DC TIG, MIG, Pulsed<sup>(1)</sup>, Flux-Cored, Gouging



Output



Input



Note: Plugs not included with Tweco® model.

### 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 DC TIG to arc gouging.
- Input voltage from 208-575 and 50 and 60 Hz operation—this one machine is capable of running on virtually any input power supply.
- Touch-Start TIG® for contamination-free starts.
- Low power consumption for energy savings—88% efficiency.
- Advanced Process model includes Pulsed MIG, Pulse-On-Pulse® and Power Mode® for best-in-class welding performance.
- Parallel two units for 700A carbon arc gouging.
- The K1728-5, -6, -7, -8, Invertec® V350-PRO includes Twist-Mate™ Cable Plugs (K852-70, quantity 2) for easy, tool-less cable connection. The K1728-13 Invertec® V350-PRO Factory (Tweco®) model includes Tweco® cable receptacles. Tweco® plugs are not included.
- Bright, large digital amp and volt meters are easy to monitor—even in sunlight—and presettable for precise procedure control.
- Rugged skid and tube handles for convenience and added protection.
- Manufactured under a quality system certified to ISO 9001 requirements and ISO 14001 environmental standards.
- Three-year warranty on parts and labor. Two-year extended warranty available in the U.S.

<sup>(1)</sup> Advanced Process Panel only.

### TECHNICAL SPECIFICATIONS

Product Name	Product Number	Model	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)
Invertec® V350-PRO	K1728-5	Construction	200-208/230/380-415/ 460/575/1/3/50/60	350A/34V/60%	3ph: 50/42/28-26/23/18 1ph: 94/85/54/42/37	5-425A Max OCV: 80V DC	14.8 x 13.3 x 27.8 (376 x 338 x 709)	81 (36.7)
	K1728-6	Factory						
	K1728-7	Advanced Process	208/230/415/ 460/575/1/3/50/60	300A/32V/100%	3ph: 41-39/36/23-22/19/16 1ph: 76/69/41/36/31			
	K1728-13	Factory (Tweco®)						
	K1728-8	CE	200-220/380-400/ 415-440/1/3/50/60	350A/34V/60% (3ph) 320A/33V/60% (1ph) 300A/32V/100% (3ph) 275A/31V/100% (1ph)	3ph: 48/28-27/26-24 1ph: not rec'd - 82/55-50/48-45 3ph: 41-37/28-22/22-21 1ph: not rec'd - 64/44-43/38-35		86.5 (37.4)	

Tweco® is a registered trademark of Thermadyne.

## PERFORMANCE

### Exceptional Multi-Process Fabrication Welding

The Lincoln Invertec® V350-PRO inverter welder enables strong multi-process welding performance with optimized arc characteristics for each process.

- Fast arc response yields tight output control:
  - More consistent bead appearance
  - Smooth arc action
  - Easy to follow puddle control

### Five Welding Process Modes

#### 1. CC-Stick Soft

Intended for low hydrogen stick applications.

Use to obtain outstanding E7018 performance for a variety of construction and fabrication applications.

#### 2. CC-Stick Crisp

Delivers a crisp shorting response optimized for cellulosic (E6010) electrodes.

#### 3. DC TIG GTAW

Standard Lincoln Touch-Start TIG® makes it easy to establish an arc.

Add the optional TIG Module for touch-less high frequency starting.

#### 4. CV-Wire

Intended for use for most MIG, and gas-shielded flux-cored or metal-cored applications.

The Invertec® V350-PRO features an exceptionally wide sweet spot delivering the arc performance and finished weld quality every operator appreciates:

- .030-1/16" (0.8-1.6 mm) solid wire
- .035-3/32" (0.9-2.4 mm) cored wire

Delivers outstanding performance with a wide variety of shielding gas mixes, including 100% CO<sub>2</sub>, Ar/CO<sub>2</sub> or Ar/O shielding gas for carbon steel as well as helium blends for stainless welding.

#### 5. CV-Innershield®, Outershield®, Metalshield® and UltraCore®

Features a wide voltage range and tight voltage control optimized for Lincoln Innershield® self-shielded flux-cored applications and for gas shielded flux-cored Lincoln® Outershield® procedures.

#### 6. Arc Gouging accessible from all Stick and CV Welding Modes

With a maximum 425 amps, the Invertec® V350-PRO has plenty of power to handle a 5/16" (7.9 mm) carbon.



Stick



Arc Gouging



CV-Wire

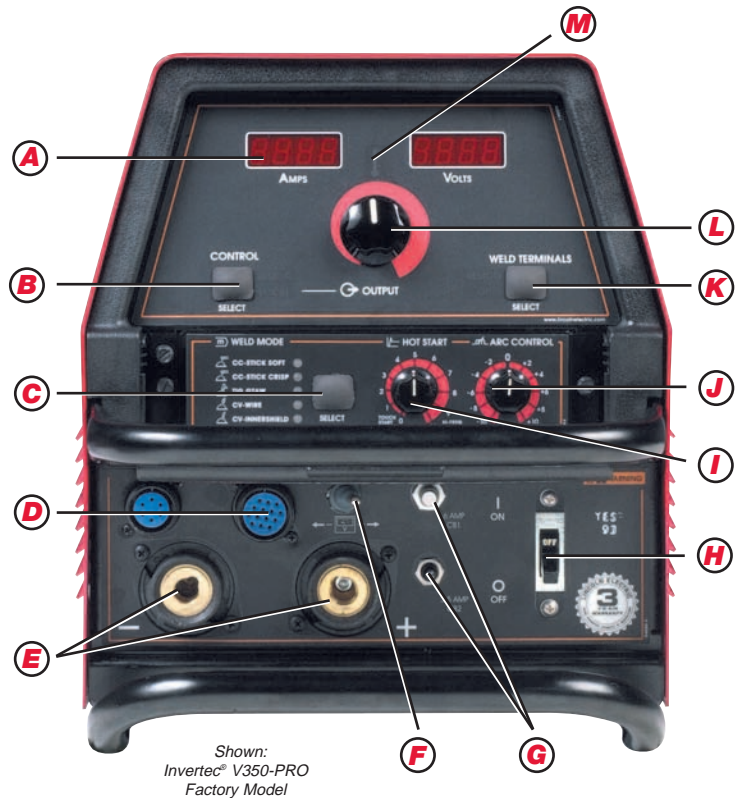


Stainless

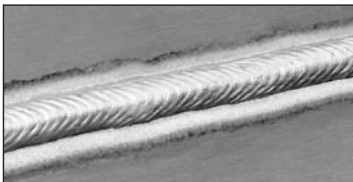
FEATURES

Key Controls

- A) Large, bright, easy to read meters
- B) Local/remote output control
- C) Mode selection switch
- D) Remote Output Control Receptacles—6- & 14-pin
- E) Negative and Positive Twist-Mate® or Tweco® Output Terminals
- F) Wire Feeder Voltmeter Polarity Switch
- G) Circuit Breaker Reset Buttons
- H) On/Off Switch
- I) Hot Start Control
- J) Arc Control Knob
- K) Weld Terminals on or remotely controlled
- L) Preset Output Amps and Voltage Control
- M) Thermal Overload Indicator Light



Shown:  
Invertec® V350-PRO  
Factory Model



Pulse-On-Pulse® on 3mm Aluminum

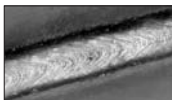
Pulse-On-Pulse®

- Uses a sequence of varying pulse wave shapes to produce a TIG-like bead appearance and excellent weld properties when MIG welding aluminum.
- Pulse-On-Pulse® controls arc length and heat input together, making it easier to achieve good penetration.

For more information see Nextweld® Document NX-2.10



Power Mode® reduces spatter and improves bead appearance, even for low voltage procedures on stainless.

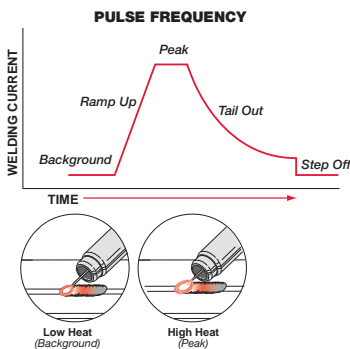


Power Mode® aids bead wetting and penetration on aluminum.

Power Mode®

- Uses high-speed regulation of output power to deliver extremely fast response to changes in the arc, for example, when using a whip technique.
- Improved MIG welding performance, including low spatter, very uniform, consistent bead wetting and controlled penetration.
- Great for low voltage applications on thin steel and stainless steel material less than 20 gauge (0.7 mm).
- Delivers excellent arc characteristics on aluminum and other alloys such as silicon bronze and nickel alloys.

For more information see Nextweld® Document NX-2.60



Pulsed MIG

- Varies weld current between peak (high heat) and background (low heat) current to provide better control of heat input.
- Reduces warping and burnthrough on thin materials.
- Enables in-the-flat, horizontal, vertical up, or overhead welding without a slag system. Great for hard automation, robotic, and high production semiautomatic applications.
- Optimized GMAW-P waveforms are available to use on aluminum, carbon steel, high strength low alloy steel, stainless steel, and nickel alloys.

For more information see Nextweld® Document NX-2.70



**INVERTEC® V350-PRO MODELS**



**Construction Model (K1728-5)**

Our lightest, most portable model at a value price for conventional MIG, cored, stick, arc gouging and non-remote output control DC TIG applications.

**Great For:**

- Construction, maintenance or shop welding.

**Compatible with:**

- LN-25-PRO or LN-15 Across-the-Arc model wire feeders.
- 6-pin and 14-pin MS connector **not** included.

**(K1728-6 with Twist-Mate® Cable Receptacles)**

**(K1728-13 with Tweco® Cable Receptacles)**

- Adds full remote capabilities and auto-detect local/remote override control.
- Versatile multi-process machine for MIG, cored, stick, TIG and arc gouging applications.
- Optional Advanced Process Panel adds:
  - Pulsed MIG
  - Lincoln's® Power Mode®
  - Lincoln's® Pulse-on-Pulse®

**Great For:**

- Construction or large-scale production factory applications.

**Compatible with:**

- LF-72, LF-74, LN-10, DH-10, LN-15, and LN-25-PRO wire feeders.
- 6-pin and 14-pin MS-type connectors.

**Advanced Process Model (K1728-7)**

- Standard Advanced Process Panel adds:
  - Pulsed MIG
  - Lincoln's® Power Mode®
  - Lincoln's® Pulse-on-Pulse®
- Standard full remote capabilities and auto-detect local/remote override control.
- Advanced multi-process machine for pulsed MIG, cored, stick, TIG and arc gouging applications.

**Great For:**

- High-end pulsed MIG applications.

**Compatible with:**

- LF-72, LF-74, LN-10, DH-10, LN-15, and LN-25-PRO wire feeders.
- 6-pin and 14-pin MS-type connectors.



**Factory Model**

**V350-PRO INVERTER RACKS**

- An ideal system to group several inverter power sources in an industrial portable package. Entire system meets National Electric Code (NEC) Standards.
- Includes Inverterc® V350-PRO Factory (Tweco®) Model (K1728-13). This special rack version has all the same features as the factory model with added IP23S rating for outdoor use and Tweco® cable receptacles.

**Order:**

**K2667-1** 4-Pack Inverter Rack with 4 Inverterc® V350-PRO Factory (Tweco®) Power Sources

**K2667-2** 6-Pack Inverter Rack with 6 Inverterc® V350-PRO Factory (Tweco®) Power Sources



Inverterc® V350-PRO

[www.lincolnelectric.com](http://www.lincolnelectric.com)

## SYSTEM SELECTION

### READY-PAK® PACKAGES

Fully assembled and ready to weld—just add wire and gas. Select a Ready-Pak® and use one order number on your order form.

#### V350-PRO Factory Model / LF-72 Heavy Duty Wire Feeder (for non-pulsed MIG Welding)

##### Order K2437-1

- V350-PRO Factory Model
- LF-72 Heavy Duty Wire Feeder
- Work and Wire Feeder 2/0 Welding Cable Package
- Harris® Flowmeter Regulator and Hose
- Heavy Duty Inverter and Wire Feeder Cart

#### V350-PRO Advanced Process Model / LF-72 Heavy Duty Wire Feeder (for MIG and pulsed MIG Welding)

##### Order K2438-1

- V350-PRO Advanced Process Model
- LF-72 Heavy Duty Wire Feeder
- Work and Wire Feeder 2/0 Welding Cable Package
- Harris® Flowmeter Regulator and Hose
- Heavy Duty Inverter and Wire Feeder Cart



Shown:  
Invertec® V350-PRO Factory Model/  
LF-72 Heavy Duty Wire Feeder Ready-Pak®

### TYPICAL V350-PRO CONSTRUCTION MODEL SYSTEMS

For specific welding applications, assemble the products listed to best suit your needs.

#### V350-PRO Construction Model / LN-25 Wire Feeder (for Innershield® Welding)

- V350-PRO Construction Model **K1728-5**
- LN-25 PRO **K2613-1**
- .068"-3/32" (1.8-2.4 mm) Drive Roll **KP653-3/32**
- Work and Wire Feeder 2/0 Welding Cable Package **K1803-1**
- Magnum® Flux-Cored Gun, 15 ft. (4.5 m), 350 Amps **K126-2**

### QUALITY AND RELIABILITY

#### Robust Design

Safety, reliability and serviceability are built into Lincoln's inverter design.

- Invertec® inverter models operate at a high efficiency (88-90%) and are capable of operating from a universal 3 phase input voltage (208 to 575 volts).
- Thermostatically protected.
- Electronic output over-current protection and electronic input over-voltage protection.
- Operating Temperature Range: -20°C to +40°C (-4°F to 104°F).
- Fan-as-Needed™ (F.A.N.) minimizes thermal cycling of internal machine components, minimizes internal contamination when not welding, and saves on electricity costs.
- Storage Temperature Range: -40°C to +40°C (-40°F to 104°F).
- Double insulation and varnish on main transformer.
- Designed to the IEC/EN 60974-1 standard. Meets tough NEMA EW 1, CSA NRTL/C standards.
- Meets rigorous IP21S or IP23S environmental rating.

## RECOMMENDED OPTIONS

### GENERAL OPTIONS



#### Advanced Process Panel

Includes Pulsed MIG, Pulse-On-Pulse® and Power Mode® capabilities. Alpha-numeric display for accurate setting. For V350-PRO Factory Model only.  
**Order K1763-1**



#### Deluxe Adjustable Gas Regulator & Hose Kit

Accommodates CO<sub>2</sub>, Argon, or Argon-blend gas cylinders. Includes a cylinder pressure gauge, dual scale flow gauge and 4.3 ft. (1.3 m) gas hose.  
**Order K586-1**



#### Work and Wire Feeder 2/0 Weld Cable Package

Includes Twist-Mate™ connectors, work clamps, 15 ft. (4.5 m) work cable and 10 ft. (3.0 m) electrode cable. Rated 350 amps, 60% duty cycle.  
**Order K1803-1**



#### Twist-Mate™ Cable Plug

For connecting welding cable to output terminal receptacles. For 1/0-2/0 (50-70 mm<sup>2</sup>) cable.  
**Order K852-70**



#### Twist-Mate™ Cable Plug

For connecting welding cable to output terminal receptacles. For 2/0-3/0 (70-95 mm<sup>2</sup>) cable.  
**Order K852-95**



#### Twist-Mate™ Cable Receptacle

For connecting welding cable to Twist-Mate™ Cable Plug.  
**Order K1759-70** for 1/0-2/0 (50-70 mm<sup>2</sup>) cable  
**Order K1759-95** for 2/0-3/0 (70-95mm<sup>2</sup>) cable



#### Twist-Mate™ to Lug Adapter

For connection of lugged cable to Twist-Mate™ connectors. 18" (457 mm) long.  
**Order K2176-1**



#### Inverter and Wire Feeder Cart

Rear-wheeled cart includes front casters and no-lift gas bottle platform. Convenient handles allow for easy cable storage while full length side trays store parts and tools. Shipped fully assembled. Small footprint fits through 30" (762 mm) door.  
**Order K1764-1**



#### Dual Cylinder Kit

Permits side-by-side mounting of two full size gas cylinders, with easy loading. For use with K1764-1 cart.  
**Order K1702-1**



#### Valet Style Undercarriage

Offers a unique pull-out handle. It provides cable storage and the ultimate in portability.  
**Order K1838-1**



### STICK OPTIONS

#### Accessory Kit

For stick welding. Includes 35 ft. (10.7 m) 2/0 electrode cable with lug, 30 ft. (9.1 m) 2/0 work cable with lugs, headshield, filter plate, cover plate, work clamp and electrode holder. 400 amp capacity.  
**Order K704**



#### Accessory Kit

For stick welding. Includes 20 ft. (6.1 m) #6 electrode cable with lug, 15 ft. (4.6 m) #6 work cable with lugs, headshield, work clamp, electrode holder and sample pack of mild steel electrode. 200 amp capacity.  
**Order K875**



#### Remote Output Control

Consists of a control box with choice of two cable lengths. Permits remote adjustment of output.  
**Order K857** for 25 ft. (7.6 m)  
**Order K857-1** for 100 ft. (30 m)



### TIG OPTIONS

#### Pro-Torch™ TIG Torches

A full line of air-cooled and water-cooled torches available. Request Lincoln publication E12.150



#### TIG Module

Portable, high frequency unit with gas valve for TIG welding. Rated at 300 amps/60% duty cycle. Requires TIG Module Control Cable.  
**Order K930-2**



**TIG OPTIONS, CON'T.**



**TIG Module Control Cable**  
(For Factory and Advanced Process Models only)  
9-pin connector at the TIG Module to 14-pin MS type connector at the power source. (Contains input power, remote control, contactor control, and ground circuits). For machines having a 14-pin remote control and power receptacle.  
**Order K936-1**



**TIG Module Control Cable**  
(For Construction Model only)  
9-pin connector at the TIG Module to a grounded 115V plug. (Contains input power, and ground circuits). For machines having no remote control capability.  
**Order K936-4**



**Hand Amptrol®**  
Provides 25 ft. (7.6 m) of remote current control for TIG welding. (6-pin plug connection)  
**Order K963-3**



**Foot Amptrol®**  
Provides 25 ft. (7.6 m) of remote current control for TIG welding. (6-pin plug connection).  
**Order K870**



**Arc Start Switch**  
May be used in place of the Foot or Hand Amptrol®. Comes with a 25 ft. (7.6 m) cable. Attaches to the TIG torch for convenient finger control to start and stop the weld cycle at the current set on the machine.  
**Order K814**



**Invertec® TIG Solenoid Kit**  
Mounts inside the back of the V350-PRO. Switches gas flow in the V350-PRO through the Twist-Mate™ connector. Includes gas hose and solenoid. [Not compatible with construction and factory (Tweco®) models].  
**Order K1762-2**

**TIG OPTIONS, CON'T.**

**Twist-Mate™ Torch Adapter**  
For connection of Pro-Torch™ TIG torches (1 piece cable) to power sources with gas passing through the Twist-Mate™ connection. For use with K1762-2.



**Order K1622-1** For air-cooled PTA-9 or PTA-17 torches.



**Order K1622-3** For air-cooled PTA-26 torches.



**Order K1622-2** For water-cooled torches.



**Twist-Mate™ Torch Adapter**  
For connection of PTA-9 or PTA-17V torches (1 piece cable) to power sources without gas passing through the Twist-Mate™ connection.  
**Order K960-1**



**TIG-Mate™ 17V Air-Cooled TIG Torch Starter Pack**  
Get everything you need for TIG welding in one complete easy-to-order kit packaged in its own portable carrying case. Includes: PTA-17V torch, parts kit, Harris® flowmeter/regulator, 10 ft. (3.0 m) gas hose, and work clamp and cable. **Order K2265-1**



**TIG-Mate™ 17 Air-Cooled TIG Torch Starter Pack**  
Get everything you need for TIG welding in one complete easy-to-order kit packaged in its own portable carrying case. Includes: PTA-17 torch, parts kit, Harris® flowmeter/regulator, 10 ft. (3.0 m) gas hose, Twist-mate™ adapter, and work clamp and cable.  
**Order K2266-1**



**TIG-Mate™ 20 Water-Cooled TIG Torch Starter Pack**  
Get everything you need for TIG welding in one complete easy-to-order kit packaged in its own portable carrying case. Includes: PTW-20 torch, parts kit, Harris® flowmeter/regulator, 10 ft. (3.0 m) gas hose, Twist-Mate™ adapter, work clamp and cable and 10 ft. (3.0 m) water hose.  
**Order K2267-1**

**INVERTEC® V350-PRO ORDER FORM**

PRODUCT DESCRIPTION	ORDER NUMBER	QUANTITY	PRICE
Invertec® V350-PRO – Construction Model	K1728-5		
Invertec® V350 PRO – Factory Model	K1728-6		
Invertec® V350-PRO – Advanced Process Model	K1728-7		
Invertec® V350-PRO – CE Model	K1728-8		
Invertec® V350-PRO – Factory (Tweco®) Rack Model	K1728-13		
<b>Ready-Pak® Packages</b>			
Invertec® V350-PRO Factory Model / LF-72 HeavyDuty	K2437-1		
Invertec® V350-PRO Advanced Process Model / LF-72 Heavy Duty	K2438-1		
<b>Invertec® V350-PRO Inverter Racks</b>			
4-Pack Inverter Rack (with 4 Invertec® V350-PRO Factory (Tweco®) Power Sources)	K2667-1		
6-Pack Inverter Rack (with 6 Invertec® V350-PRO Factory (Tweco®) Power Sources)	K2667-2		
Caster Kit for Inverter Racks	K2665-1		
<b>Recommended General Options</b>			
Advanced Process Panel (Factory Model only)	K1763-1		
Deluxe Adjustable Gas Regulator & Hose Kit	K586-1		
Work and Wire Feeder 2/0 Welding Cable Package	K1803-1		
Twist-Mate™ Cable Plug, 1/0 - 2/0 (50-70 mm <sup>2</sup> )	K852-70		
Twist-Mate™ Cable Plug, 2/0 - 3/0 (70-95 mm <sup>2</sup> )	K852-95		
Twist-Mate™ Cable Receptacle, 1/0 - 2/0 (50-70 mm <sup>2</sup> )	K1759-70		
Twist-Mate™ Cable Receptacle, 2/0 - 3/0 (70-95 mm <sup>2</sup> )	K1759-95		
Twist-Mate™ to Lug Adapter	K2176-1		
Inverter and Wire Feeder Cart	K1764-1		
Dual Cylinder Kit	K1702-1		
Valet Style Undercarriage	K1838-1		
<b>Recommended Wire Feeder Options</b>			
LF-72 and LF-74	E8.11		
LN-10 and DH-10	E8.200		
LN-15	E8.60		
LN-25 PRO	E8.100		
<b>Recommended Stick Options</b>			
Accessory Kit: (400 Amps) / (200 Amps)	K704 / K875		
Remote Output Control: for 25 ft. (7.6 m) / for 100 ft. (30 m)	K857 / K857-1		
<b>Recommended TIG Options</b>			
Pro-Torch™ TIG Torches	See Publication E12.150		
TIG Module	K930-2		
TIG Module Control Cable (Factory/Advanced Process Models)	K936-1		
TIG Module Control Cable (Construction Model)	K936-4		
Hand Amptrol®	K963-3		
Foot Amptrol®	K870		
Arc Start Switch	K814		
Invertec® TIG Solenoid Kit	K1762-2		
Twist-Mate™ Torch Adapter: for air-cooled PTA-9 or -17 Torches	K1622-1		
for air-cooled PTA-26 Torches	K1622-3		
for water-cooled Torches	K1622-2		
Twist-Mate™ Torch Adapter (without gas pass through)	K960-1		
TIG-Mate™ 17V Air-Cooled TIG Torch Starter Pack	K2265-1		
TIG-Mate™ 17 Air-Cooled TIG Torch Starter Pack	K2266-1		
TIG-Mate™ 20 Water-Cooled TIG Torch Starter Pack	K2267-1		
	<b>TOTAL:</b>		

**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 information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

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

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