

# Square Wave™ TIG 175

## Processes

TIG, Stick

## Product Number

K1478-5 208/230/1/60

See back for complete specs

## Input Power

208/230/1/60

## Input Current at Rated Output

208V: 64A

230V: 57A

## Rated Output

150A/26V/25% Duty Cycle

## Output Range

DC: 10-175A

AC: 10-175A

Max. OCV: 59V DC

Max. OCV: 74V AC

## Weight/Dimensions (H x W x D)

185 lbs (84 kg)

19.5 x 13.7 x 25.0 in

(495 x 348 x 635 mm)

## Sets the Standard for Premium, Economical TIG Welding Performance

Back by popular demand, this great little AC/DC TIG and stick welder delivers classic smooth DC and stable AC square wave welding output – outstanding TIG performance as well as stick welding – It's like getting a stick welder for FREE!

### FEATURES

#### ▶ Top TIG Welding Performance

- Square Wave™ Technology – Delivers a low peak current and fast positive / negative transition time. High frequency arc starting is used for both AC and DC TIG welding modes. You experience reduced tungsten spitting, tungsten electrode erosion and a smooth, stable AC welding arc.
- Standard Auto Balance® control automatically delivers optimal mix of cleaning action vs. penetration.
- Excellent low amperage starting performance – down to 10 amps.

▶ **It's Like Getting a Stick Welder for FREE!** With outstanding general purpose AC/DC stick welding capability, you can tackle steel, stainless, cast iron and hardfacing applications, including AWS E6010 electrodes like Fleetweld® 5P+.

▶ **Standard Foot Amptrol™** – Remotely controlling your current level is an added expense with other TIG welders in this class.

▶ **Enhanced TIG Torch Handling** – Includes a rugged Series 17 torch with Ultra-Flex™ cable. The torch is detachable for easy repair or to use optional torches for especially tight spaces or unusual applications.

▶ **Automatic Remote Sensing** – The unit automatically senses when a remote current control, such as the foot or hand Amptrol™, has been connected.

▶ **Shielding gas pre-flow and post-flow** – Built-in 0.50 second pre-flow and 15 second post-flow timers purge and protect the weld and tungsten.



### WHAT'S INCLUDED

#### K1478-5 Includes:

- ▶ Series 17 TIG Torch, 12.5 ft (3.8 m), with one-piece cable
- ▶ 3/32 in (2.4 mm) Collet Body
- ▶ 3/32 in (2.4 mm) Collet
- ▶ 3/32 in (2.4 mm) x 7 in (177 mm) Ceriated Tungsten Electrode
- ▶ Long Backcap
- ▶ 7/16 in (11.1 mm) diameter Alumina Gas Cup Nozzle
- ▶ Twist Mate™ Torch Adapter
- ▶ Foot Amptrol™ with 15 ft (4.6 m) cable
- ▶ Gas Regulator & Hose
- ▶ Stick Electrode Holder (200 amp) with 10 ft (3.1 m) cable and Twist Mate™ Connector
- ▶ Work Clamp & 10 ft (3.0 m) Cable
- ▶ 6 ft (1.8 m) Input Cable with NEMA 6-50P Plug

#### INPUT



#### OUTPUT



Two Year Extended Warranty Available in U.S.A. and Canada.

### APPLICATIONS

- ▶ Motorsports
- ▶ Aviation
- ▶ Maintenance & Repair
- ▶ Light Industrial Fabrication



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### THE LINCOLN ELECTRIC COMPANY

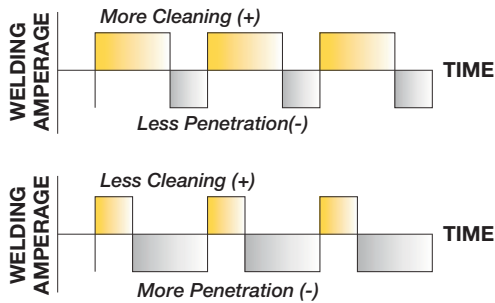
22801 St. Clair Avenue • Cleveland, OH • 44117-1199 • U.S.A.  
PH: +1.216-481-8100 • www.lincolnelectric.com

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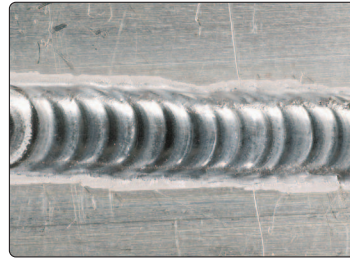
## PERFORMANCE

### AC Auto Balance® Controls — Automatically sets the optimal cleaning vs. penetration level for aluminum welding!

When aluminum welding, the positive (+) portion of the AC welding amperage cleans the oxides from the aluminum surface. The negative (-) portion delivers more heat input, increasing penetration level.



Patented AC Auto Balance® automatically sets the ratio of cleaning action (+) versus penetration (-) based on amperage.



Auto Balance® Results

## RECOMMENDED ACCESSORIES TO EXPAND MACHINE CAPABILITIES

### GENERAL OPTIONS



#### Undercarriage

Comes complete with single gas cylinder platform, bracket, and chain, to accommodate 6 in. to 9 in. (152 to 229 mm) diameter gas cylinders, from 24 in. to 56 in. (610 to 1422 mm) high. The undercarriage features a pivoting gas platform to easily load the bottle without lifting.  
**Order K964-1**

### TIG OPTIONS



#### Hand Amptrol™

Provides 25 ft. (7.6 m) of remote current control for TIG welding. (6 pin plug connection). Velcro straps secure torch.  
**Order K963-3** (One size fits all Pro-Torch TIG Torches.)



#### Foot Amptrol™

Provides 25 ft. (7.6 m) of remote output 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**



#### Magnum® Pro-Torch™ TIG Torches

A full line of air-cooled and water-cooled torches and Twist Mate™ adapters are available.  
**Request publication E12.150.**



#### Ultra-Flex™ PTA-9F TIG Torch Package

Includes a PTA-9F flex head torch with a 12.5 ft. (3.8 m) one-piece Ultra-Flex™ cable and K1622-1 Twist Mate™ adapter. Also includes a 1/16" (1.6 mm) tungsten, gas lens collet body, collet and gas lens.  
**Order K1781-9**



#### Twist Mate™ Torch Adapter

Allows connection of one-piece TIG torches to the Square Wave™ TIG 175.  
**Order K1622-1(1)** for PTA-9/PTA-17  
(1) Included with Square Wave™ TIG 175.



#### Parts Kits

Parts kits are available for the PTA-9 and PTA-17 torches. These kits include back cap, collets, collet bodies nozzles and tungstens.  
**Order KP507** for PTA-9 torches  
**Order KP508** for PTA-17 torches.



#### Gas Lens Parts Kit for PTA-9 & PTW-20

Parts kit provides collets, collet bodies, a back cap, alumina nozzles and tungstens in a variety of sizes, all packaged in an easy to carry reclosable box.  
**Order KP2414-1**



#### Cut Length Consumables

TIG welding filler metals are available for welding stainless steel, mild steel, aluminum and copper alloys.  
**See publication C9.10**

See publication E12.150 for a full listing of TIG torches and torch expendable parts.

## PRODUCT SPECIFICATIONS

Product Name	Product Number	Input Power	Rated Output <sup>(1)</sup> Current/Voltage/ Duty Cycle	Input Current @ Rated Output <sup>(2)</sup>	Output Range	H x W x D in (mm)	Net Weight lbs (kg)
Square Wave™ TIG 175	K1478-5	208/230/1/60	150A/26V/25%	64/57A	DC: 10-175A AC: 10-175A Max. OCV: 59V DC Max. OCV: 74V AC	19.5 x 13.7 x 25.0 (495 x 348 x 635)	185 (84)

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

(2) 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.

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