



# ASPECT<sup>®</sup> RANGE TIG AC/DC

**LINCOLN<sup>®</sup>**  
**ELECTRIC**

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

# TIG AC/DC WELDING

## WHY AC ?

In TIG AC welding, the welding current alternates between positive and negative polarity. It is ideal for welding aluminum and other materials containing surface refractory oxide. Negative polarity is used to form the weld pool, whereas positive polarity serves to break down the oxide and “clean” the surfaces to be welded.

## APPLICATIONS

- Maintenance on site
- Car industry
- Shipbuilding
- Aerospace industry
- Chemical industry

## APPLIED MATERIAL

- Aluminium
- Magnesium

## EQUIPMENT REQUIREMENTS

- AC Power source
- Excellent arc performance on AC
  - Adjustable AC frequency
  - Adjustable AC balance
- Portability
- Pulse feature
- Stick performance
- Water Cooler

## CONSUMABLES

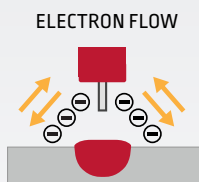
Casting its own aluminum rod enables Lincoln Electric to hold extremely tight tolerances in the chemical composition of its alloys. Lincoln Electric ensures the most reliable, highest quality aluminum TIG welding products.

### SUPERGLAZE® TIG 5183

- Designed to meet the tensile strength requirements of magnesium alloys.
- For base materials 5083 and 5654.

### SUPERGLAZE® TIG 5356

- General purpose filler alloy for welding 5XXX series alloys when 276 MPa tensile strength is not required.

Current type	AC	
Electrode polarity	AC (+ and -)	
Penetration characteristics		
Oxide cleaning action	Yes - Once every half cycle	
Heat balance in the arc (approx.)	50% at work end 50% at electrode end	
Penetration	Medium	
Electrode capacity	Good e.g. 3.18 mm [1/8 in.] - 225 A	
Electrode type	Thoriated, ceriated, lanthanated	



# EQUIPMENT RANGE

## SINGLE PHASE AC/DC TIG WELDERS



### ASPECT® 200

The Aspect® 200 AC/DC TIG welder has advanced TIG AC & DC Functions (Four wave shapes, Pulse, adjustable Balance and Offset) making it ideal for critical AC or DC TIG welding applications. It offers a simple control panel with bright digital display and an innovative control system, from the torch. It can be simply changed to a water cooled unit by adding the COOL ARC® 24 Water Cooler.



- **Superb arc performance**  
Excellent HF ignition, stable & fast arc, minimum current 2A
- **Advanced TIG AC & DC Functions**  
Four wave shapes, Pulse, adjustable Balance and Offset, innovative and simple control panel, AC auto setting
- **Generator compatible**  
ideal for site use
- **Cellulosic capability**
- **Bright digital display**  
easy set up buttons, 9 memories, new control from the TIG torch
- **Energy efficient**  
1 phase buck-boost circuit for energy saving
- **Robust design**  
Potted PCB's, True HD design (special protection for use in harsh conditions)
- **Best aluminium welding performance**



Item Number	Primary Voltage (50-60Hz)	Current Range [A]	Rated Output	Fuse Size [A] (slow)	Weight (kg)	Dimensions HxWxD (mm)
K14189-1	115/ 230V/1Ph	2-200	200A@35% 130A@100%	16	23	419 x 246 x 506

## THREE PHASE AC/DC TIG WELDERS



### ASPECT® 300

This industrial AC/DC TIG welder has been designed and built to perform in the most hazardous environments at high outputs: 300A at 35% duty cycle both in TIG AC and TIG DC application. The controller provides all the features you would expect from industrial AC/DC TIG inverter welders. It can be simply changed to water-cooled by adding the COOL ARC® 46 Water Cooler. A robust, stable and well equipped cart is available for easy movement of the unit.



- **Advanced inverter technology**  
for superior TIG performance
- **Superb welding characteristics**  
with TIG DC, TIG AC and Stick welding processes
- **Adjustable cleaning and penetration**  
for perfect aluminium welding
- **Variable AC frequency (40-400Hz)**  
for control of travel speed and penetration
- **Full function user-friendly control panel layout** with graph and a numeric display make it easy to set all welding parameters
- **Cellulosic capability**



Item Number	Primary Voltage (50-60Hz)	Current Range [A]	Rated Output	Fuse Size [A] (slow)	Weight (kg)	Dimensions HxWxD (mm)
K12058-1	230/400V/3Ph	2 - 300	300A/22V/35% 200A/18V/100%	32/20	43	455 x 301 x 632

# TIG TORCHES

## PROTIG NG S

The ergonomic handle with button [EB].

The best WELDLINE torches with an advanced ergo-design, using a colored soft grip for a maximum welder comfort.

These torches will give you an optimum welding quality, and increase the communication between the welder and the machine.



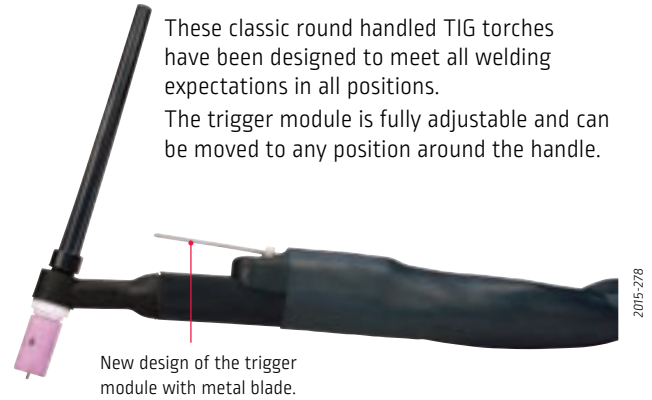
The modular system brings a increased control over the power source.  
Delivered with a single button module.

## PROTIG III S

The round handle with a blade trigger [RL].

These classic round handled TIG torches have been designed to meet all welding expectations in all positions.

The trigger module is fully adjustable and can be moved to any position around the handle.



New design of the trigger module with metal blade.

### AIR COOLING

MODEL			PROTIG 10		PROTIG 20		PROTIG 30		PROTIG 40		
Duty cycle 35%			125 A		150 A		200 A		250 A		
Duty cycle 60%			80 A		100 A		130 A		200 A		
Fitted as standard	back cap		long								
	nozzle		Ø 9.6 mm				Ø 12 mm				
	electrode		Ø 1.6 mm		Ø 2.0 mm		Ø 2.4 mm				
Length			5 m	8 m	5 m	8 m	5 m	8 m	5 m	8 m	
PROTIG III S	Connection	C5B/S	W000382715-2	W000382716-2	W000382717-2	W000382718-2	W000382719-2	W000382720-2	W000382721-2	W000382722-2	
PROTIG NG S			W000278394-2	W000278395-2	W000278396-2	W000278397-2	W000278398-2	W000278399-2	W000278400-2	W000278401-2	

### WATER COOLING

MODEL			PROTIG 10W		PROTIG 35W		PROTIG 40W	
Duty cycle 100%			220 A		350 A		450 A	
Fitted as standard	back cap		long					
	nozzle		Ø 12.8 mm		Ø 15 mm		Ø 14 mm	
	electrode		Ø 2.4 mm		Ø 3.2 mm		Ø 3.2 mm	
Length			5 m	8 m	5 m	8 m	5 m	8 m
PROTIG III S	Connection	C5B/S	W000382723-2	W000382724-2	W000382725-2	W000382726-2	W000382727-2	-
PROTIG NG S			W000278402-2	W000278403-2	W000278404-2	W000278405-2	W000278406-2	W000278407-2

### UP/DOWN MODULES (for PROTIG NG S only)

Designation	Item Number	
① Horizontal potentiometer	W000279370 [4.7 kΩ]	WP10529-3 [10 kΩ]
② Vertical potentiometer	W000279246 [4.7 kΩ]	WP10529-4 [10 kΩ]
③ 3 buttons module	WP10529-2	
④ Blade	W000279245	



### WEAR PART BOX

Designation	Item Number
Torch 10/10W	W000306441
Torch 20	W000306442
Torch 30	W000306443
Torch 40/35W	W000306444
Torch 40W	W000306445



## TUNGSTEN ELECTRODES

#### Product advantages:

- Very high life cycle
- Perfect arc ignition
- Very stable arc
- Tip longevity

- Pure tungsten,
- Tungsten + cerium,
- Tungsten + lanthanum,
- Tungsten + rare earths<sup>(1)</sup>.

Designation	Item Number
Kit WTT2 9/9V/20W	W000371535
Kit WTT2 17/26/18W	W000371536

### CHOICE CRITERIA

Type	Metal		Arc stability	Striking	Lasting	Thermal resistance
	Aluminium	Steel & Stainless steel				
WP - Pure tungsten	*		**	*	*	*
WC 20 - Cerium 2%		*	**	*	**	**
WL 15 - Lanthanum 1,5%	**	***	**	***	***	***
WL 20 - Lanthanum 2%	*	***	**	***	***	***
WS 20 - Rare earths <sup>(1)</sup> 2%	*	*	**	***	***	***

\*\*\* Excellent \*\* Good \* Average

(1) Rare earths = any of the abundant metallic elements, including scandium (atomic number 21), yttrium (39), and the 15 elements from 57 to 71 (lanthanide series include lanthanum and cerium) in the Mendeleyev classification.

# ACCESSORIES

## CART 24 FOR ASPECT® 200

- Stable design
- Large wheels
- Low gas cylinder shelf
- Connection of modules without tools
- Special clamps for rod material boxes
- Stability stand on ramp thanks to extra brake brackets



Storage compartment for small parts and tools



## COOL ARC® 24

- Filling level indicator
- Light and modular design
- Powerful pump
- Low noise



## COOL ARC® 46

- Filling level indicator
- Light and modular design
- Powerful pump
- Low noise



9.6 liters

W000010167

## FREEZCOOL

Specially designed for the cooling of welding torches.

- High electrical resistivity
- Anti-freezing protection down to -27 °C
- Anti-corrosion and anti-algae growth

## CART FOR ASPECT® 300

- Robust, stable and well equipped
- 4 rolls for easy move



ASPECT® 200  
K14189-1



COOL ARC® 24  
K14190-1



CART 24  
K14191-1



ASPECT® 300  
K12058-1



COOL ARC® 46  
K14105-1



CART FOR ASPECT® 300  
K14129-1

## BUILT FOR THE HEAVIEST INDUSTRIAL CONDITIONS

Developed and tested under the hardest conditions (TRUE HD) to grant the reliability you need.



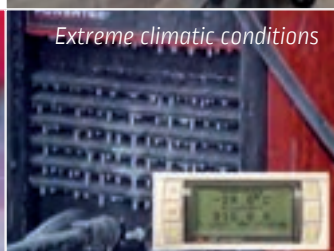
IP



Dust



Vibration



Extreme climatic conditions



Drop and jerk



## BEING PRESENT LOCALLY MAKES US MORE AWARE GLOBALLY

**120+**  
YEARS OF EXPERIENCE

**325+**  
GLOBAL R&D TEAM



- 📍 Global Headquarters
- Solution Centers

### 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.

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