

# Dynasty® 400 and 800

TIG/Stick Welding  
Power Source



## Quick Specs



### Industrial Applications

Precision fabrication  
Heavy fabrication  
Pipe and tube fabrication  
Aerospace  
Aluminum ship repair  
Anodized aluminum fabrication

### Processes

TIG (GTAW)  
Pulsed TIG (GTAW-P)  
Stick (SMAW)  
Air carbon arc (CAC-A)  
**400:** 6 mm maximum  
**800:** 10 mm maximum

**Input Power** 380–575 V, 3-phase power

**Amperage Range** **400:** 3–400 A  
**800:** 5–800 A

**Rated Output** **400:** 300 A at 32 V, 60% duty cycle  
**800:** 600 A at 44 V, 60% duty cycle

**Net Weight** **400:** 61 kg (134 lb.)  
**800:** 90 kg (198 lb.)



Allows for any input voltage hookup (380–575 V) with no manual linking, providing convenience in any job setting. Ideal solution for dirty or unreliable power.

**Meter calibration** allows digital meters to be calibrated for certification.

**Cooler Power Supply (CPS)** is an integrated 120-volt dedicated-use receptacle for the Coolmate™ 3.5.

**Wind Tunnel Technology™** protects internal electrical components from airborne contaminants, extending the product life.

**Fan-On-Demand™** power source cooling system operates only when needed, reducing noise, energy use and the amount of contaminants pulled through the machine.

**Lift-Arc™** provides AC or DC arc initiation without the use of high frequency.

**Blue Lightning™** high-frequency (HF) arc starter for non-contact arc initiation. Provides more consistent arc starts and greater reliability compared to traditional HF arc starters.

**Program memory** features nine independent program memories that maintain/save your parameters.

**Auto-postflow** adjusts the length of postflow time based on the amperage setting, shielding your tungsten and eliminating the need to set the postflow time.

**New!**



Dynasty 400 machine only

Dynasty 400 Wireless Complete




## AC TIG Features


**Independent amplitude/amperage control** allows EP and EN amperages to be set independently to precisely control heat input to the work and electrode.


**Balance control** provides adjustable oxide removal which is essential for creating the highest quality aluminum welds. These models provide extended ranges.


**Frequency** controls the width of the arc cone and can improve directional control of the arc.

## AC Waveforms

 **Advanced squarewave**, fast freezing puddle, deep penetration and fast travel speeds.

 **Soft squarewave** for a soft buttery arc with maximum puddle control and good wetting action.

 **Sine wave** for customers that like a traditional arc. Quiet with good wetting.

 **Triangular wave** reduces the heat input and is good on thin aluminum. Fast travel speeds.

## DC TIG Features

**Exceptionally smooth** and precise arc for welding exotic materials.

**Pulse.** Pulsing can increase puddle agitation, arc stability and travel speeds while reducing heat input and distortion. These models provide extended ranges.

## AC/DC Stick Features

**DIG control** allows the arc characteristics to be changed for specific applications and electrodes. Lower the DIG setting for smooth running electrodes like E7018 and increase the DIG setting for stiffer, more penetrating electrodes like E6010.

**Hot Start™** adaptive control provides positive arc starts without sticking.

**AC frequency control** adds additional stability when stick welding in AC for smoother welds.



Power source is warranted for three years, parts and labour.



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# Specifications (Subject to change without notice.)



Model	Welding Amperage Range	IP Rating	Rated Output	Amps Input at Rated Load Output, 50/60 Hz						Max. Open-Circuit Voltage	Dimensions	Net Weight
				380 V	400 V	460 V	575 V	KVA	KW			
Dynasty 400	3–400 A	IP23	250 A at 30 V, 100% duty cycle	15	14	13	10	10.3	9.8	75 VDC (10–15 VDC*)	H: 629 mm (24.75 in.) W: 349 mm (13.75 in.) D: 559 mm (22 in.)	61 kg (134 lb.)
			300 A at 32 V, 60% duty cycle	19	19	16	13	13.1	12.5			
			400 A at 36 V, 20% duty cycle	29	28	24	19	19.4	18.6			
Dynasty 800	5–800 A	IP23	500 A at 40 V, 100% duty cycle	39	37	32	25	26.3	25.2	75 VDC (10–15 VDC*)	H: 876 mm (34.5 in.) W: 349 mm (13.75 in.) D: 559 mm (22 in.)	90 kg (198 lb.)
			600 A at 44 V, 60% duty cycle	51	48	42	33	34.7	33.2			
			800 A at 44 V, 20% duty cycle	69	65	57	45	46.9	45.0			

Certified by Canadian Standards Association to both the Canadian and U.S. Standards. All CE models conform to the applicable parts of the IEC 60974 series of standards.

\*Indicates sense-voltage for Lift-Arc™ TIG and Low OCV stick.

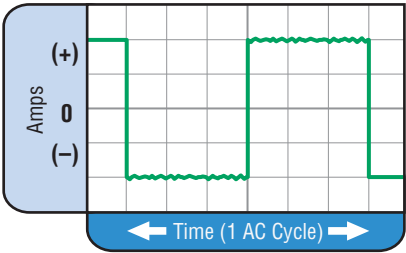
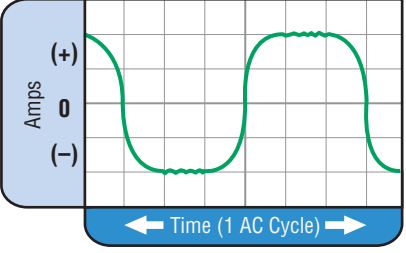
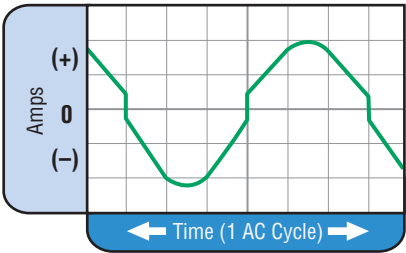
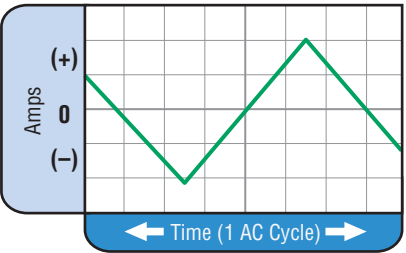
## AC Waveshape Controls

Feature	Setting	Arc Effect	Weld Effect
<b>AC Balance Control</b> Controls arc cleaning action. Adjusting the % EN of the AC wave controls the width of the etching zone surrounding the weld.  <i>Note: Set the AC Balance control for adequate arc cleaning (etching) action at the sides and in front of the weld puddle. AC Balance should be fine-tuned according to the amount of etching desired.</i>	75% EN 	Reduces balling action and helps maintain point 	
	50% EN 	Increases balling action of the electrode 	
<b>AC Frequency Control</b> Controls the width of the arc cone. Increasing the AC Frequency provides a more focused arc and increased directional control.  <i>Note: Decreasing the AC Frequency softens the arc and broadens the weld puddle for a wider weld.</i>	60 Hz 	Wider profile ideal for buildup work 	
	120 Hz 	Narrower profile for fillet welds and automated applications 	
<b>Independent AC Amperage Control</b> Allows the EN and EP amperage values to be set independently. Adjusts the ratio of EN to EP amperage to precisely control heat input to the work and the electrode. EN amperage controls the amount of heat directed to the work, while EP amperage dramatically affects the arc cleaning action (along with the AC Balance control). Increased EN amperage also provides deeper penetration and allows for increased travel speeds.	100A EP 200A EN 	More current in EN than EP: Faster travel speeds and deeper penetration 	
	200A EP 100A EN 	More current in EP than EN: Shallow penetration, increased balling and etching 	

## AC Waveshape Controls (Continued)

### AC Waveform Selection

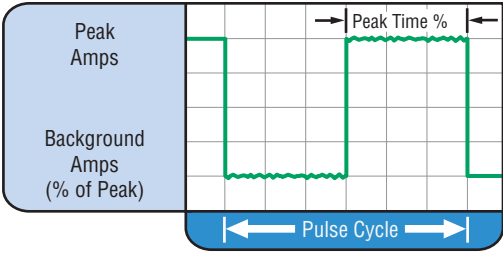
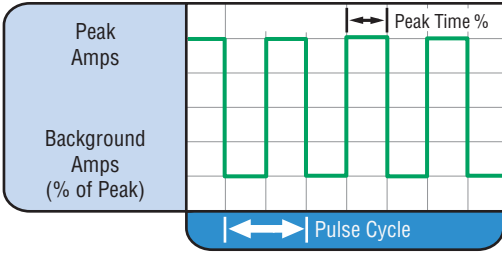
Select from four different AC waveforms to optimize the arc characteristic for your application. Choose from:

Advanced Squarewave	Soft Squarewave
 <p data-bbox="603 387 767 465">Fast transitions for responsive and dynamic arc.</p>	 <p data-bbox="1286 349 1469 528">All the benefits of advanced square, fine tuned to provide a smooth, soft arc with maximum puddle control and good wetting action.</p>
Sinewave	Triangular Wave
 <p data-bbox="603 701 791 831">Square transitions eliminate the need for continuous HF, while the sinewave peaks soften the arc.</p>	 <p data-bbox="1286 674 1493 925">Unconventional wave provides the punch of the peak amperage, while reducing overall heat input. Quick puddle formation reduces weld time — limiting heat input and reducing weld distortion, especially on thin materials.</p>

## Pulsed TIG Controls

### High-Speed Pulsed TIG Controls

- **PPS Pulses per second (Hz):** DC = 0.1–5,000 PPS / AC = 0.1–500 PPS
- **% ON – % Peak Time:** 5–95% (Controls the amount of time during each pulse cycle at the PEAK amperage.)
- **Background Amps:** 5–99% (Sets the low-pulse amperage value as a % of the Peak Amps.)

Conventional Pulsed TIG	High-Speed Pulsed TIG
 <p data-bbox="177 1599 804 1778">Typically from 1 to 10 PPS. Provides a heating and cooling effect on the weld puddle and can reduce distortion by lowering the average amperage. This heating and cooling effect also produces a distinct ripple pattern in the weld bead. The relationship between pulse frequency and travel speed determines the distance between the ripples. Slow pulsing can also be coordinated with filler metal addition and can increase overall control of the weld puddle.</p>	 <p data-bbox="852 1599 1506 1877">In excess of 40 PPS, Pulsed TIG becomes more audible than visible — causing increased puddle agitation for a better as-welded microstructure. Pulsing the weld current at high speeds — between a high Peak and a low Background amperage — can also constrict and focus the arc. This results in maximum arc stability, increased penetration and increased travel speeds (Common Range: 100 – 500 PPS). The Arc-Sharpening effects of high speed pulsing are expanded to new dimensions. The ability to pulse at 5,000 PPS further enhances arc stability and concentration potential — which is extremely beneficial to automation where maximum travel speeds are required.</p>

# Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Dynasty® 400	907717002	Auto-Line™ 380–575 V, 50/60 Hz, CE. 2.4 m (8 ft.) power cord		
Dynasty® 800	907719002	Auto-Line™ 380–575 V, 50/60 Hz, CE		
<b>TIG Connectors</b>				
Water-Cooled TIG Torch Connectors	195377 225028	Connects Weldcraft™ water-cooled torches to Dinse-style connector Connects Weldcraft™ water-cooled torches to Dynasty 800 (thread-lock connector included with 800 models)		
<b>Remote Controls</b>				
Wireless Remote Foot Control	300429	Foot control with wireless 27.4 m (90 ft.) operating range		
Wireless Remote Hand Control	300430	Hand control with wireless 91.4 m (300 ft.) operating rang		
RCCS-14	043688	North/south fingertip control		
RCC-14	151086	East/west fingertip control		
RFCS-14 HD	194744	Heavy-duty foot control		
RHC-14	242211020	Hand control		
RMLS-14	129337	Momentary/maintained rocker switch		
RMS-14	187208	Momentary rubber dome switch		
<b>Accessories</b>				
Universal Trolley	018035028			
Handle Kit	058066130	For XMS/Dynasty/Maxstar with the universal trolley (018035028)		
Coolmate™ 3.5	300245	120 V, 50/60 Hz, CE. <i>Requires coolant</i>		
Industrial Coolant	043810	3.78-liter plastic bottle <i>(must be ordered in quantities of 4)</i>		
Automation Interface Kit	278161	Field installation required. Provides 28-pin automation connections		
Weld Current Sensor	300179	Field installation required. Detects when work clamp is not connected		
Thread-Lock Connectors (2 male)	225029	Used to connect weld cable to Dynasty 800 or Maxstar 800		
Dinse-Style Connector 50 mm (1 male, 1 female)	042419	Used to extend weld cables		
Memory Card Expansion	301151 301152 301328 301416	14-pin automation expansion 14-pin Modbus® expansion Hot wire power supply expansion Hot Start™ adjust expansion		
Memory Card (Blank)	301080			

Date:

Total Quoted Price:

Distributed by:

