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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.)

AUTO-LINE™ Power Management Technology

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 though 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.

Dynasty 400

Dynasty 800

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.

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.

TRUE BLUE® 3YR. WARRANTY

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

Miller®

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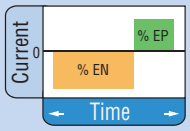
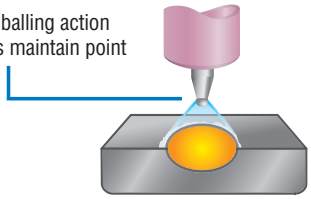
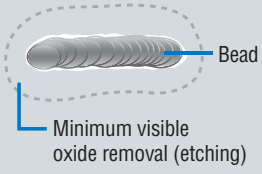
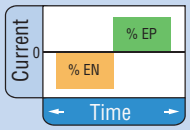
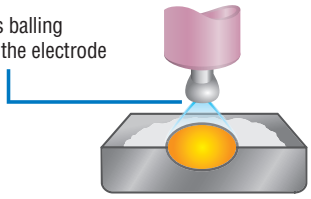
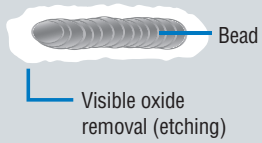
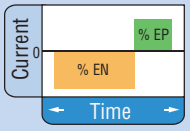
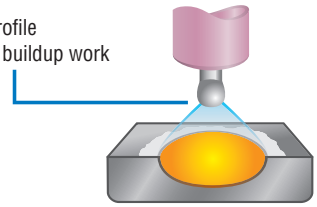
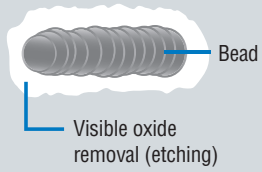
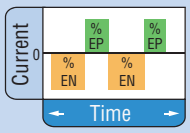
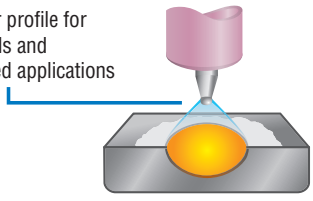
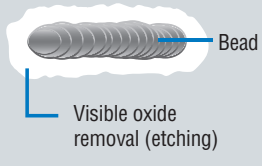
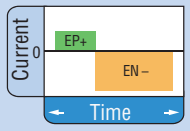
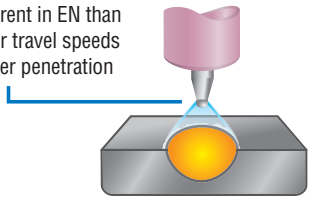
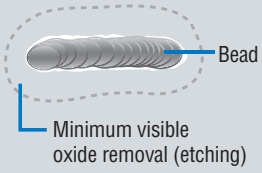
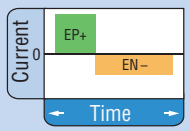
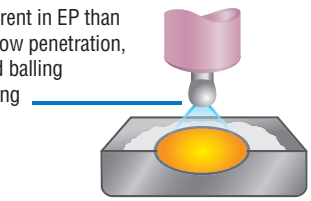
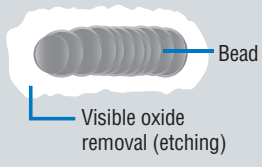
Specifications (Subject to change without notice.)

Model	Welding Amperage Range	IP Rating	Rated Output	Amps Input at Rated Load Output, 50/60 Hz 380 V	400 V	460 V	575 V	KVA	KW	Max. Open-Circuit Voltage	Dimensions	Net Weight
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

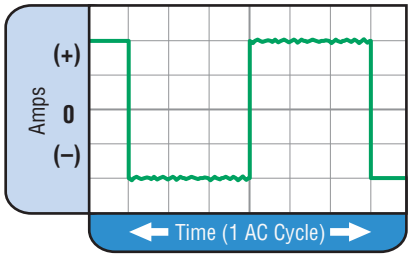
Feature	Setting	Arc Effect	Weld Effect
AC Balance Control Controls arc cleaning action. Adjusting the % EN of the AC wave controls the width of the etching zone surrounding the weld. *Note: Set the AC Balance control for adequate arc cleaning (etching) action at the sides and in front of the weld puddle. AC Balance should be fine-tuned according to the amount of etching desired.*	75% EN 	Reduces balling action and helps maintain point 	
	50% EN 	Increases balling action of the electrode 	
AC Frequency Control Controls the width of the arc cone. Increasing the AC Frequency provides a more focused arc and increased directional control. *Note: Decreasing the AC Frequency softens the arc and broadens the weld puddle for a wider weld.*	60 Hz 	Wider profile ideal for buildup work 	
	120 Hz 	Narrower profile for fillet welds and automated applications 	
Independent AC Amperage Control 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

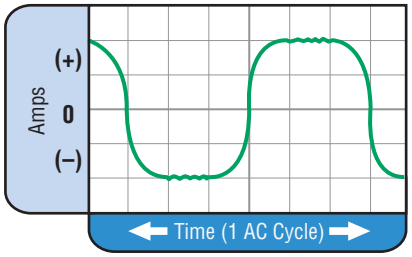
Select from four different AC waveforms to optimize the arc characteristic for your application. Choose from:

Advanced Squarewave



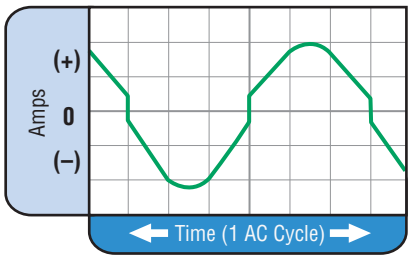
Fast transitions for responsive and dynamic arc.

Soft Squarewave



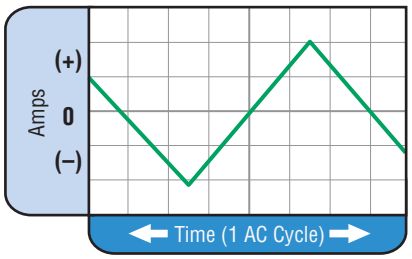
All the benefits of advanced square, fine tuned to provide a smooth, soft arc with maximum puddle control and good wetting action.

Sinewave



Square transitions eliminate the need for continuous HF, while the sinewave peaks soften the arc.

Triangular Wave



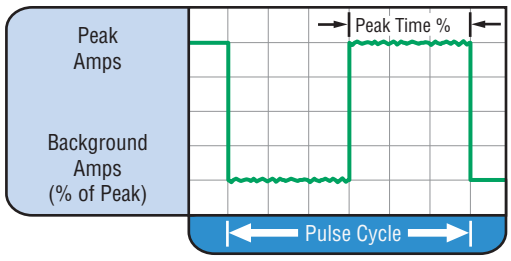
Unconventional wave provides the punch of the peak amperage, while reducing overall heat input. Quick puddle formation reduces weld time — limiting heat input and reducing weld distortion, especially on thin materials.

Pulsed TIG Controls

High-Speed Pulsed TIG Controls

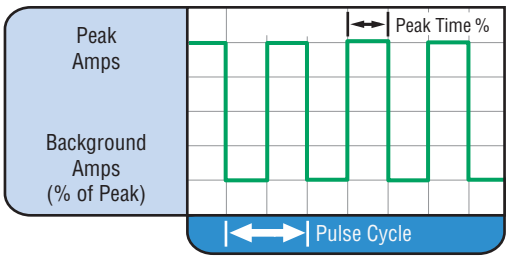
- **PPS Pulses per second (Hz):** DC = 0.1–5,000 PPS / AC = 0.1–500 PPS
- **% ON – % Peak Time:** 5–95% (Controls the amount of time during each pulse cycle at the PEAK amperage.)
- **Background Amps:** 5–99% (Sets the low-pulse amperage value as a % of the Peak Amps.)

Conventional Pulsed TIG



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.

High-Speed Pulsed TIG



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.

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**		
TIG Connectors				
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)		
Remote Controls				
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 range		
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		
Accessories				
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.** *Requires coolant*		
Industrial Coolant	**043810**	3.78-liter plastic bottle *(must be ordered in quantities of 4)*		
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:**

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