

Dynasty® 200 Series

TIG/Stick Welding Power Source  

Quick Specs



Industrial Applications

Precision Fabrication
Petro/Chemical
Aerospace
Food/Beverage Industry
Dairy
Shipboard

Processes

TIG (GTAW)
Pulsed TIG (GTAW-P)
Stick (SMAW)
Air Carbon Arc (CAC-A)
5/32-inch maximum

Input Power 120–480 V, 3- or 1-Phase Power

Amperage Range 1–200 A

Rated Output 200 A at 28 V, 20% Duty Cycle

Net Weight 45 lb. (20.5 kg)



Allows for any input voltage hookup (120–480 V) with no manual linking, providing convenience in any job setting. Ideal solution for dirty or unreliable power.

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



Dynasty 200 SD

Dynasty 200 DX Complete Package with Wireless Foot Control



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.


AC TIG Features


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.

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.

Frequency control adds additional stability when Stick welding in AC for smoother welds.



Power source is warranted for 3 years, parts and labor.
Coolant system is warranted for 1 year, parts and labor.



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MillerWelds.com
  



Specifications (Subject to change without notice.)



Welding Mode	Input Power	Welding Amperage Range	Rated Output	Amps Input at Rated Load Output, 50/60 Hz						Max. Open-Circuit Voltage	Dimensions	Net Weight
				115 V	230 V	400 V	460 V	KVA	KW			
TIG (GTAW)	3-Phase	AC 5–200 A DC 1–200 A	200 A at 18 V, 20% duty cycle	—	13.7	8.7	6.9	5.5	5.2	80 VDC (5–10 VDC**)	H: 13.5 in. (343 mm) W: 7.5 in. (191 mm) D: 21.5 in. (546 mm) with TIGRunner® H: 46.25 in. (1175 mm) W: 23.5 in. (597 mm) D: 22.25 in. (565 mm)	45 lb. (20.5 kg) with Contractor Kit 77 lb. (34.9 kg) with TIGRunner® 137 lb. (62.1 kg)
			150 A at 16 V, 60% duty cycle	—	9.4	6.0	4.7	3.8	3.6			
	1-Phase	AC 5–200 A DC 1–200 A	150 A at 16 V, 60% duty cycle	—	15.8	—	7.9	3.6	3.6			
			AC 5–150 A DC 1–150 A	140 A at 15.6 V, 40% duty cycle	31.0	—	—	—	3.6			
			100 A at 14 V, 100% duty cycle	20.7	—	—	—	2.3	2.3			
				0.42*	—	—	—	0.05*	0.03*			
				0.42*	—	—	—	0.05*	0.03*			
Stick (SMAW)	3-Phase	AC 5–200 A DC 1–200 A	200 A at 28 V, 20% duty cycle	—	20.8	13.0	10.2	8.1	7.8	80 VDC (5–10 VDC**)		
			130 A at 25.2 V, 60% duty cycle	—	12.3	7.6	6.0	4.8	4.6			
	1-Phase	AC 5–200 A DC 1–200 A	130 A at 25.2 V, 60% duty cycle	—	20.0	—	10.0	4.7	4.7			
			AC 5–105 A DC 1–105 A	100 A at 24 V, 60% duty cycle	31.3	—	—	—	3.6			
			90 A at 23.6 V, 100% duty cycle	27.6	—	—	—	3.2	3.2			
				0.42*	—	—	—	0.05*	0.03*			

* While idling. ** Sense voltage for Stick and Lift-Arc™ TIG. Note: Duty cycle limitations on units with 115 V input power are due to the input power cord supplied with the unit.

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.

Performance Data

DUTY CYCLE

110–120 V INPUT VOLTAGE

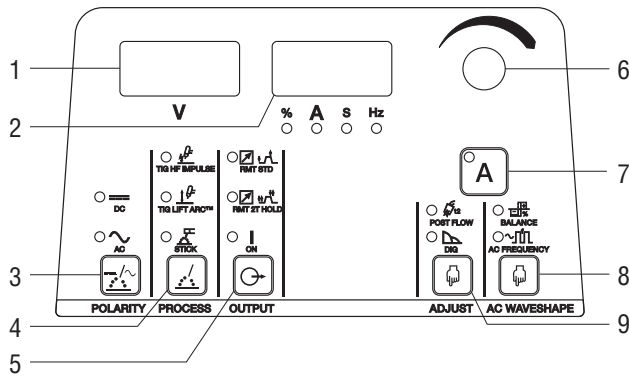
%	TIG	STICK
30%	150 A	100 A
40%	140 A	100 A
60%	120 A	100 A
100%	100 A	90 A

200–480 V INPUT VOLTAGE

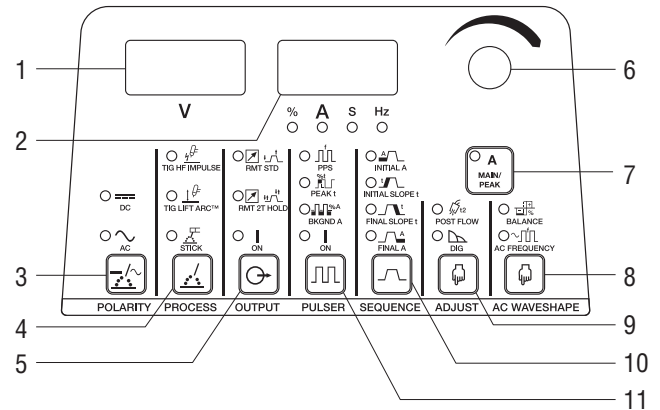
%	TIG	STICK
20%	200 A	200 A
30%	180 A	170 A
40%	166 A	150 A
60%	150 A	130 A
100%	120 A	110 A

Control Panel

Dynasty 200 SD



Dynasty 200 DX



Control Panel Parameter Values

1. Voltmeter Display

2. Ammeter Display

3. Polarity AC/DC

4. Process/
Arc Starting TIG: HF Impulse, Lift Arc
STICK: Adaptive Hot Start

5. Output Control Standard Remote,
2T Trigger Hold,
Output ON

6. Encoder Control

7. Amperage Control

8. AC Waveshape
Balance 30–99%
AC Frequency 20–250 Hz

9. Gas/DIG Preflow 0.0–25.0 seconds

Postflow 0–50 seconds

DIG 0–100%

Advanced Features on the Dynasty DX only:

10. Sequencer Control

Initial Amps AC: 5–200 A
DC: 1–200 A
Initial Slope 0.0–25.0 seconds
Final Slope 0.0–25.0 seconds
Final Amps AC: 5–200 A
DC: 1–200 A

11. Pulser Control

Pulses per Second DC: 0.1–500 PPS
AC: 0.1–500 PPS
Peak Time 5–95%
Background Amps 5–95%

Additional Setup Parameter Values

Preprogrammed Starts

.020–1/8 in. tungsten

Programmable Starts

Amperage AC: 5–200 A
DC: 1–200 A
Time 1–200 milliseconds
Ramp Time 1–250 milliseconds
Minimum Amperage 1–20 A
Polarity EP, EN

Additional Triggers 3T, 4T, Mini Logic,
4T Momentary

Waveshapes Advance Squarewave,
Soft Squarewave, Sine
Wave, Triangular wave

Spot/Timer 0.1–25.0 seconds

OCV Low OCV, Normal OCV

Stick-Stuck Check On/Off



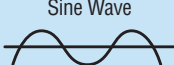
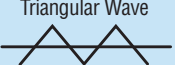
Lockouts Four levels

Arc Timer 0.0–9999 hours
and 0–59 minutes

Cycle Counter 0–999,999 cycles

TIG Upgrade Chart

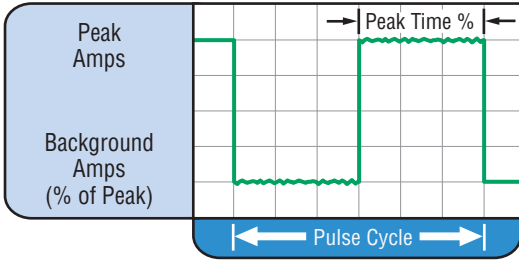
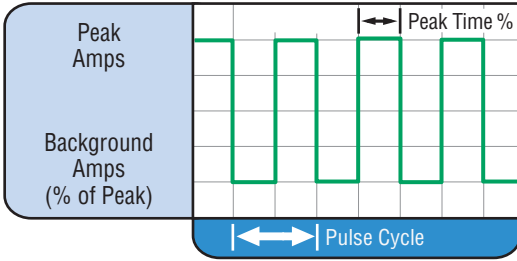
Which Machine is Right for You?

Why Upgrade?	Syncrowave 210 UPGRADE	Dynasty 200	Dynasty 200 Benefits
Maximum Thickness Capacity	1/4-in. Aluminum	1/4-in. Aluminum	Same material thickness capacity.
AC Frequency Control (Aluminum TIG)	Fixed at 100 Hz (Expandable 60–150 Hz)	Variable 20–250 Hz	Higher frequencies provide better arc control and faster travel speeds.
AC Balance Control (Aluminum TIG)	60–80%	30–99%	Extended Balance control provides more versatility on specialty materials.
Pulse Control	Off–50 PPS (Expandable Off–150)	Off–500 PPS	Provides more arc stability.
AC Waveforms (Aluminum TIG)	Soft Squarewave 	Advanced Squarewave  Sine Wave  Triangular Wave 	Advanced Squarewave = Travel faster Soft Squarewave = Maximum puddle control Sine Wave = Traditional characteristics Triangular Wave = Reduced heat input
Portability	133.5 lb. (61 kg)	45 lb. (20.5 kg)	Easier to move because of size and weight.
Power Flexibility	Auto-Line™ 120–240 V 1-Phase	Auto-Line™ 120–480 V 1-Phase or 3-Phase	Auto-Line™ allows the unit to operate on any voltage. 1- or 3-phase. Even generators!

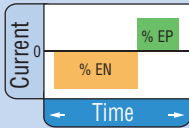
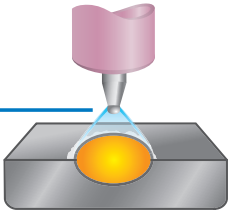
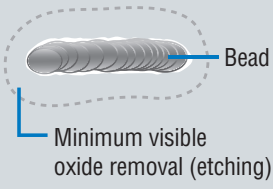
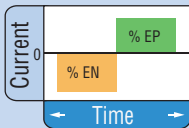
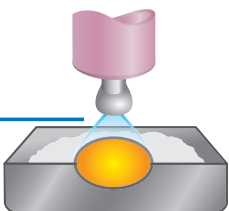
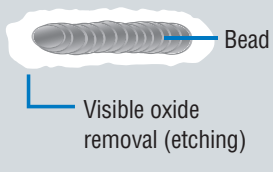
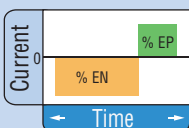
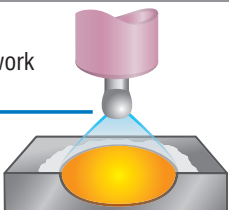
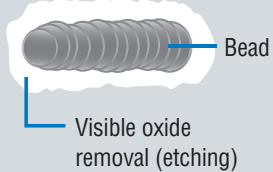
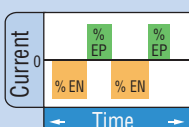
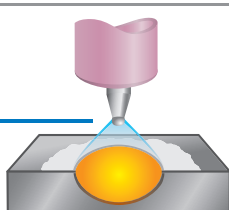
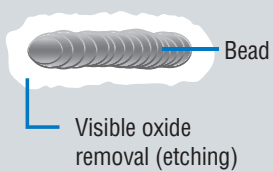
Pulsed TIG Controls

High-Speed Pulsed TIG Controls

- **PPS Pulses per second (Hz):** 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.)

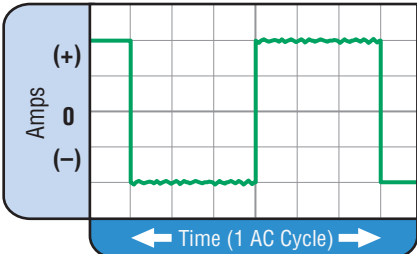
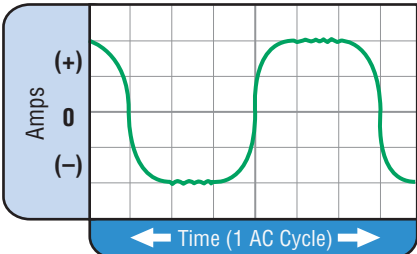
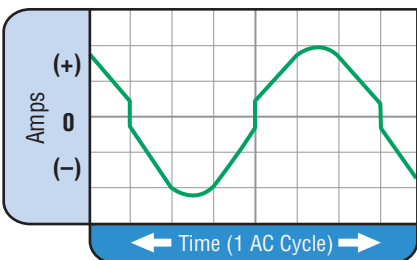
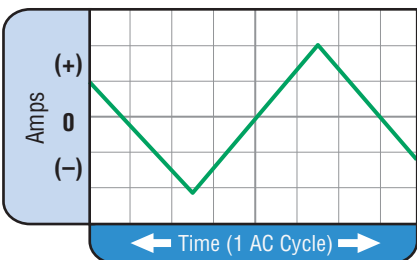
Conventional Pulsed TIG	High-Speed Pulsed TIG
 <p>Typically from 1 to 10 PPS. Provides a heating and cooling effect on the weld puddle and can reduce distortion by lowering the average amperage. This heating and cooling effect also produces a distinct ripple pattern in the weld bead. The relationship 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>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).</p>

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. <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 	
AC Frequency Control 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 	

AC Waveform Selection

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

Advanced Squarewave  <p>Fast transitions for responsive and dynamic arc.</p>	Soft Squarewave  <p>All the benefits of advanced square, fine tuned to provide a smooth, soft arc with maximum puddle control and good wetting action.</p>
Sinewave  <p>Square transitions eliminate the need for continuous HF, while the sinewave peaks soften the arc.</p>	Triangular Wave  <p>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>

Dynasty® 200 Models/Packages



Dynasty 200 Power Sources

Dynasty 200 SD #907 099 (CSA)
Dynasty 200 DX #907 099 011 (CSA)
Dynasty 200 DX #907 356 (CE)

Includes:

- Adjustable shoulder strap
- 8-ft. (2.4 m) power cord (no plug)

- Two 50-mm Dinse-style connectors
- Setup DVD (#251 116)
- One air-cooled TIG torch connector (#195 378)

Note: See page 7 for recommended Contractor Torch Kit.

Air-Cooled Contractor Kit Packages

Dynasty 200 DX with Contractor Kit #951 174 (CSA) w/Foot Control
#951 175 (CSA) w/Fingertip Control

Packages include:

- Dynasty 200 DX (#903 099 011)
- RFCS-14 HD foot control (#194 744) or RCCS-14 fingertip control (#043 688)
- Weldcraft™ A-150 (WP-17) 25-ft. (7.6 m) TIG torch
- 200-amp Stick electrode holder with 15-ft. (4.6 m) #4 cable

- Work clamp with 15-ft. (4.6 m) #4 cable
- Flow gauge regulator with gas hose
- AK2C accessory kit with short back cap, nozzles, collets, collet bodies, and 2% ceriated tungsten electrodes (.040, 1/16, and 3/32 in.)
- One air-cooled TIG torch connector (#195 378)
- Protective carrying case for accessories



Fingertip contractor kit shown.

Water-Cooled TIGRunner® Package

Dynasty 200 DX TIGRunner #907 099 021 (CSA)

Completely assembled.

Package includes:

- Dynasty 200 DX (#907 099 011)
- Coolmate™ 1, 120 VAC (#300 360)
- One gallon of pre-mixed, low-conductivity coolant (#043 810)

- 2-Wheel Trolley Cart (#300 480) with the following features: easy-to-maneuver single-cylinder cart with cable and torch holders. Easy to release and remove welder from cart for even more portability. Convenient tray for consumable storage and filler rod holders.

Notes: TIG Torch Connector must be ordered separately. See page 7 for recommended W-250 (WP-20) Torch Kit (#300 185).

The Coolmate 1 requires a separate source for electricity. The Dynasty 200 does not contain auxiliary power.



Water-Cooled Complete Packages

Dynasty 200 DX Complete #951 397 (CSA) w/Wireless Foot Control
#951 139 (CSA) w/Foot Control
#951 140 (CSA) w/Fingertip Control

Completely assembled.

Package includes:

- Dynasty 200 DX (#907 099 011)
- Coolmate™ 1, 120 VAC (#300 360)
- One gallon of pre-mixed, low-conductivity coolant (#043 810)
- Wireless Remote Foot Control (#300 429) or RFCS-14 HD foot control (#194 744) or RCCS-14 fingertip control (#043 688)

- 2-Wheel Trolley Cart (#300 480) with the following features: easy-to-maneuver single-cylinder cart with cable and torch holders. Easy to release and remove welder from cart for even more portability. Convenient tray for consumable storage and filler rod holders.
- W-250 (WP-20) Torch Kit (#300 185). See page 7 for more details.

Note: The Coolmate 1 requires a separate source for electricity. The Dynasty 200 does not contain auxiliary power.



Dynasty 200 DX Complete Package with Wireless Foot Control

Genuine Miller® Accessories



2-Wheel Trolley Cart #300 480

Easy-to-manuever two-wheel cart features single-cylinder rack, chain for cylinder, straps (quick and easy to detach and carry machine), cable holders, torch holder, storage area, and filler rod storage area. Works with Dynasty® or Maxstar® 200 and Coolmate™ 1. Contact your local distributor for filler material holders.



Universal Carrying Cart and Cylinder Rack #042 934

Holds power source, and gas cylinder up to 56 inches (142 cm) high and 6 to 9 inches (15 to 23 cm) in diameter.



Coolmate™ 1 #300 360

120 VAC, 60 Hz. One-gallon water cooler designed for 200 A portable welders. Features include fin-and-tube heat

exchanger, back-lit power switch, external filter, polyethylene tank and coolant level sight gauge.

Low-Conductivity TIG Coolant #043 810

Sold in multiples of four in one-gallon recyclable plastic bottles. Miller coolants contains a base of ethylene glycol and deionized water to protect against freezing to -37° Fahrenheit (-38° C) or boiling to 227° Fahrenheit (108° C).



#195 054
kit shown.

Contractor Kits

#195 054 150 A RFCS-14 HD Foot Pedal Kit

#195 055 150 A RCCS-14 Fingertip Kit

All-in-one TIG/Stick welding kit comes with either a RFCS-14 HD foot control or RCCS-14 fingertip control, Weldcraft™ A-150 TIG torch, 200-amp Stick electrode holder with 15-foot (4.6 m) cable, 300-amp work clamp with 15-foot (4.6 m) cable, flow gauge regulator with 12-foot (3.7 m) gas hose, gas hose coupler, AK2C torch accessory kit, TIG torch connector, and protective carrying case.



Weldcraft™ A-200 (WP-26) TIG Torch

#WP-26-12-R (12 ft.)

#WP-26-25-R (25 ft.)

Torch body gas valve models are available.

Note: A-200 (WP-26) torch requires #195 379 connector.



Air-Cooled TIG Torch Connectors

#195 379 A-200 (WP-26)

#195 378* All others

50-mm Dinse-style for one-piece air-cooled torch.

*A-80 (WP-24) torches require 24-5 connector.



W-250 (WP-20) Torch Kit #300 185

■ Weldcraft™ W-250 (WP-20) 25-foot (7.6 m) TIG torch with Dinse-style connector

■ Torch cable cover

■ Work clamp with 15-foot (4.6 m) 1/0 cable and Dinse-style connector

■ Flowmeter regulator

■ Gas hose (regulator to machine)

■ AK4C torch accessory kit includes nozzles, collets, collet bodies and 2% ceriated tungsten electrodes (1/16, 3/32 and 1/8 inch)



Water-Cooled TIG Torch Connector #195 377

50-mm Dinse-style with water return line. For use

with all Weldcraft™ water-cooled torches.

Remote Controls and Switches



Wireless Remote Foot Control #300 429

For remote current and contactor control. Receiver plugs directly into the 14-pin receptacle of Miller machine. 90-foot (27.4 m) operating range.



Wireless Remote Hand Control #300 430

For remote current and contactor control. Receiver plugs directly into the 14-pin receptacle of Miller machine. 300-foot (91.4 m) operating range.

RCCS-14 Remote Contactor and Current Control #043 688

North/south rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Includes 26.5-foot (8 m) cord and 14-pin plug.

RCC-14 Remote Contactor and Current Control #151 086

East/west rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Includes 26.5-foot (8 m) cord and 14-pin plug.

RFCS-14 HD Foot Control #194 744

Maximum flexibility is accomplished with a reconfigurable cord that can exit the front, back or either side of the pedal. Foot pedal provides remote current and contactor control. Includes 20-foot (6 m) cord and 14-pin plug.

RHC-14 Hand Control #242 211 020

Miniature hand control for remote current and contactor control. Dimensions: 4 x 4 x 3.25 inches (102 x 102 x 83 mm). Includes 20-foot (6 m) cord and 14-pin plug.



RMLS-14 Switch #129 337

Momentary- and maintained-contact rocker switch for contactor control. Push forward for maintained contact and backward for momentary contact. Includes 26.5-foot (8 m) cord and 14-pin plug.



RMS-14 On/Off Control #187 208

Momentary-contact switch for contactor control. Rubber-covered pushbutton dome switch ideal for repetitive on-off applications. Includes 26.5-foot (8 m) cord and 14-pin plug.

Extension Cables for 14-Pin Remote Controls

#242 208 025 25 ft. (7.6 m)

#242 208 050 50 ft. (15.2 m)

#242 208 080 80 ft. (24.4 m)

Educational Materials

To order, please call Miller Literature at 866-931-9732 or visit MillerWelds.com/resources/tools.

Gas Tungsten Arc Welding (TIG) Publication #250 833

Ron Covell TIG Welding Basics DVD #196 567

Setup DVD #251 116

Video topics include tungsten selection, setup menus, DC pulse, sequencer, balance and frequency settings. (Included with machine.)

Tungsten

Tungsten	Amp Range	2% Ceriated (AC/DC)	2% Lanthanated (AC/DC)
.040 in. (1.2 mm)	10–80 A	WC040X7	WL2040X7
1/16 in. (1.6 mm)	70–150 A	WC116X7	WL2116X7
3/32 in. (2.4 mm)	140–250 A	WC332X7	WL2332X7
1/8 in. (3.2 mm)	225–400 A	WC018X7	WL2018X7
5/32 in. (4.0 mm)	300–500 A	WC532X7	WL2532X7

Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Dynasty® 200 SD	#907 099	Auto-Line™ 120–480 VAC, 50/60 Hz, CSA . 8-ft. power cord		
Dynasty® 200 DX	#907 099 011	Auto-Line™ 120–480 VAC, 50/60 Hz, CSA . 8-ft. power cord		
Dynasty® 200 DX International	#907 356	Auto-Line™ 120–480 VAC, 50/60 Hz, CE . 8-ft. power cord		
Air-Cooled Packages				
Dynasty® 200 DX Contractor Kit w/Foot Control	#951 174	Auto-Line™ 120–480 VAC, 50/60 Hz, CSA . 8-ft. power cord		
Dynasty® 200 DX Contractor Kit w/Fingertip Control	#951 175	Auto-Line™ 120–480 VAC, 50/60 Hz, CSA . 8-ft. power cord		
Water-Cooled Packages				
Dynasty® 200 DX TIGRunner®	#907 099 021	Auto-Line™ 120–480 VAC, 50/60 Hz, CSA . 8-ft. power cord (Torch kit and accessories sold separately)		
Dynasty® 200 DX Complete with Wireless Remote Foot Control	#951 397	Auto-Line™ 120–480 VAC, 50/60 Hz, CSA . 8-ft. power cord		
Dynasty® 200 DX Complete w/Foot Control	#951 139	Auto-Line™ 120–480 VAC, 50/60 Hz, CSA . 8-ft. power cord		
Dynasty® 200 DX Complete w/Fingertip Control	#951 140	Auto-Line™ 120–480 VAC, 50/60 Hz, CSA . 8-ft. power cord		
TIG Torches, Kits and Connectors				
Air-Cooled Contractor Kits	#195 054 #195 055	Foot pedal Fingertip		
Weldcraft™ A-200 (WP-26) TIG Torch	#WP-26-12-R #WP-26-25-R	12-ft. (3.7 m) cable. Requires #195 379 connector 25-ft. (7.6 m) cable. Requires #195 379 connector		
Air-Cooled TIG Torch Connectors	#195 379 #195 378	Connects Weldcraft™ A-200 (WP-26) torch to Dinse-style connector Connects all air-cooled Weldcraft™ torches (except A-200) to Dinse-style connector. A-80 (WP-24) torches require 24-5 connector		
W-250 (WP-20) Torch Kit	#300 185			
Water-Cooled TIG Torch Connector	#195 377	Connects Weldcraft™ water-cooled torches to Dinse-style connector		
Tungsten		See page 7		
Remote Controls				
Wireless Remote Foot Control	#300 429	Foot control with wireless 90-ft. (27.4 m) operating range		
Wireless Remote Hand Control	#300 430	Hand control with wireless 300-ft. (91.4 m) operating range		
RCCS-14	#043 688	North/south fingertip control		
RCC-14	#151 086	East/west fingertip control		
RFCS-14 HD	#194 744	Heavy-duty foot control		
RHC-14	#242 211 020	Hand control		
RMLS-14	#129 337	Momentary/maintained rocker switch		
RMS-14	#187 208	Momentary rubber dome switch		
Extension Cables	#242 208 025 #242 208 050 #242 208 080	25 ft. (7.6 m) 50 ft. (15.2 m) 80 ft. (24.4 m)		
Accessories				
2-Wheel Trolley Cart	#300 480			
Universal Carrying Cart and Cylinder Rack	#042 934			
Coolmate™ 1	#300 360	120 VAC, 60 Hz. <i>Requires coolant</i>		
TIG Coolant (Must be ordered in quantities of four)	#043 810	1-gallon plastic bottle		
Dinse-Style Connector 50 mm (1 male)	#042 418	Used to connect weld cable to Dinse terminal machine		
Dinse-Style Connector 50 mm (1 male, 1 female)	#042 419	Used to extend weld cables		
Dinse/Tweco® Adapter	#042 465	Male Dinse to female Tweco		
Dinse/Cam-Lok Adapter	#042 466	Male Dinse to female Cam-Lok		
Gas Tungsten Arc Welding (TIG) Publication	#250 833			
Ron Covell TIG Welding Basics DVD	#196 567			
Setup DVD (included with machine)	#251 116			

Date:

Total Quoted Price:

Distributed by:

