# Dynasty 200 Series

# TIG/Stick Welding Power Source

# **Quick Specs**

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#### **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 115-460 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)

# Power Management Technology

Allows for any input voltage hookup (115–460 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.



**Lift-Arc**™ start 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.





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

#### **ACTIG 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.



#### Miller Electric Mfg. Co.

An ITW Company 1635 West Spencer Street P.O. Box 1079 Appleton, WI 54912-1079 USA

#### **Equipment Sales US and Canada**

Phone: 866-931-9730 FAX: 800-637-2315 International Phone: 920-735-4554 International FAX: 920-735-4125 MillerWelds.com







## **Specifications** (Subject to change without notice.)









Welding Mode	Welding Amperage Range	Max. Open- Circuit Voltage	Input Power	Rated Output		Input at 230 V	Rated I			)/60 Hz KW	Dimensions	Net Weight
(GTAW) DC (1'	AC 5-150 A DC 1-150 A (115 VAC)	80 VDC 5-10 VDC**	3-Phase	200 A at 18 V, 20% Duty Cycle 150 A at 16 V, 60% Duty Cycle	_ _ _	13.7 0.16* 9.4 0.16*	8.7 0.24* 6.0 0.24*	6.9 0.25* 4.7 0.25*	5.5 0.06* 3.8 0.06*	5.2 0.03* 3.6 0.03*	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)
	AC 5-200 A DC 1-200 A (200-460 VAC)		1-Phase	150 A at 16 V, 60% Duty Cycle		15.8 0.23*	_ _	7.9 0.25*	3.6 0.05*	3.6 0.02*		
	(200-400 VAC)			140 A at 15.6 V, 40% Duty Cycle	31.0 0.42*	_	_	_	3.6 0.05*	3.5 0.03*		
				100 A at 14 V, 100% Duty Cycle	20.7 0.42*	_	_	_	2.3 0.05*	2.3 0.03*		
(SMAW) D (1	DO 1 105 A	5-10 VDC**	3-Phase	200 A at 28 V, 20% Duty Cycle	_	20.8 0.16*	13.0 0.24*	10.2 0.25*	8.1 0.06*	7.8 0.03*		
				130 A at 25.2 V, 60% Duty Cycle	_	12.3 0.16*	7.6 0.24*	6.0 0.25*	4.8 0.06*	4.6 0.03*		
				130 A at 25.2 V, 60% Duty Cycle	_	20.0 0.23*	_	10.0 0.25*	4.7 0.05*	4.7 0.03*		
				100 A at 24 V, 60% Duty Cycle	31.3 0.42*	_		_	3.6 0.05*	3.6 0.03*		
				90 A at 23.6 V, 100% Duty Cycle	27.6 0.42*	_	_	_	3.2 0.05*	3.2 0.03*		

<sup>\*</sup> 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. CE MI 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

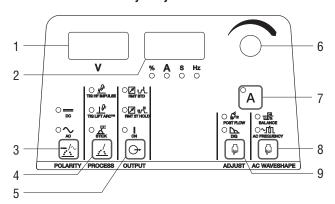
#### 200-460 V INPUT VOLTAGE

%	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

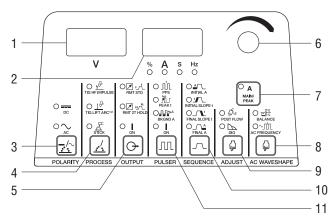


### **Control Panel**

#### Dynasty 200 SD



#### Dynasty 200 DX



#### **Control Panel Parameter Values**

1. Voltmeter Display

2. Ammeter Display

3. Polarity AC/DC

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

5. Output Control Standard Remote,

2T Trigger Hold. Output ON

6. Encoder Control

7. Amperage Control

8. AC Waveshape

30 - 99%Balance **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

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

11. Pulser Control

DC: 0.1-500 PPS Pulses per Second

AC: 0.1-500 PPS

DC: 1-200 A

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 EP, EN **Polarity** 

Additional Triggers 3T, 4T, Mini Logic,

4T Momentary

Waveshapes Advance Squarewave,

Soft Squarewave, Sine

Wave, Triangular wave

0.1 - 25.0 seconds

Spot/Timer

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**

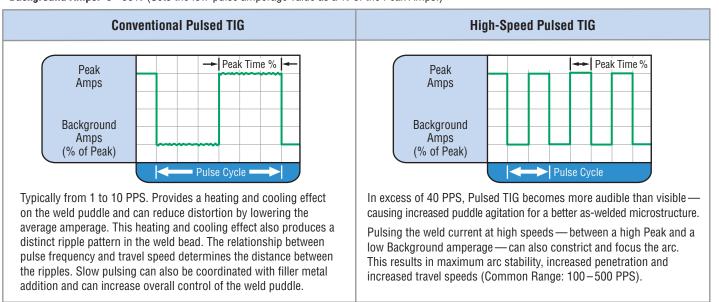
#### Which Machine is Right for You?

Why Upgrade?	Syncrowave 210	UPGRAI	DE 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)	$\Rightarrow$	Variable 20–250 Hz	Higher frequencies provide better arc control and faster travel speeds.
AC Balance Control (Aluminum TIG)	60-80%	$\Rightarrow$	30-99%	Extended Balance control provides more versatility on specialty materials.
Pulse Control	Off-50 PPS (Expandable Off-150)	$\Rightarrow$	Off-500 PPS	Provides more arc stability.
AC Waveforms (Aluminum TIG)	Soft Squarewave		Advanced Squarewave Soft 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)	$\Rightarrow$	45 lb. (20.5 kg)	Easier to move because of size and weight.
Power Flexibility	Auto-Line™ 115–230 V Single-Phase	$\Rightarrow$	Auto-Line™ 115–460 V Single-Phase or Three-Phase	Auto-Line™ allows the unit to operate on any voltage. Single- or three-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.)



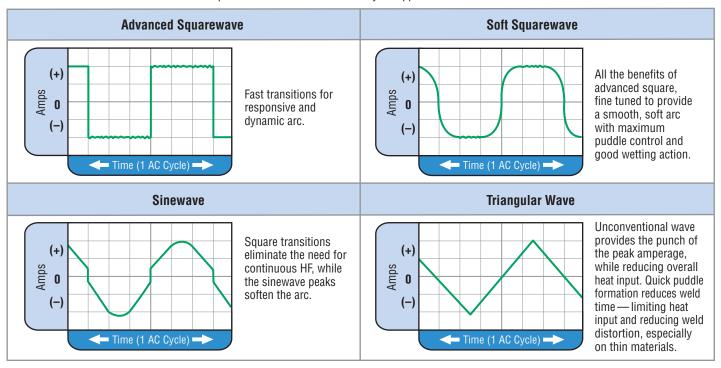


### **AC Waveshape Controls**

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.	75% EN  tu % EP  % EN  + Time +	Reduces balling action and helps maintain point	Minimum visible oxide removal (etching)
AC Balance should be fine-tuned according to the amount of etching desired.	50% EN  WEP  WEP  Time  Time	Increases balling action of the electrode	Visible oxide removal (etching)
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	60 Hz	Wider profile ideal for buildup work	Bead Visible oxide removal (etching)
puddle for a wider weld.	120 Hz	Narrower profile for fillet welds and automated applications	Visible oxide removal (etching)

#### **AC Waveform Selection**

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





### **Packages**





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

Note: See page 7 for recommended Contractor Torch Kit.





Fingertip contractor kit shown.

#### **Dynasty® 200 DX Contractor Kit Packages (Air Cooled)**

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



#### **TIGRunner® Package (Water Cooled)**

# Dynasty 200 DX TIGRunner #907 099 021 (CSA)

Completely assembled.

Package includes:

- Dynasty 200 DX (#907 099 011)
- Coolmate<sup>™</sup> 1, 115 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.



#### **Complete Packages (Water Cooled)**

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<sup>™</sup> 1, 115 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.



### **Genuine Miller® Accessories**



#### 2-Wheel Trolley Cart #300 480

Easy-to-maneuver 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 #300 360 115 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).



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

- Weldcraft® W-250 (WP-20) 25-foot (7.6 m)
   TIG torch with Dinse connector
- Torch cable cover
- Work clamp with 15-foot (4.6 m) 1/0 cable and Dinse connector
- Miller I Smith 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 with water return line. For use with

all Weldcraft® water-cooled torches.



#### **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, Miller I Smith 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.

#### **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 fastens to TIG torch using two Velcro® straps. 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 fastens to TIG torch using two Velcro® straps. 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:  $4 \times 4 \times 3.25$  inches (102  $\times$  102  $\times$  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 DVD Setup Video #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™ 115 – 460 VAC, 50/60 Hz, <b>CSA.</b> 8-ft. primary cord		
Dynasty® 200 DX	#907 099 011	Auto-Line™ 115-460 VAC, 50/60 Hz, <b>CSA.</b> 8-ft. primary cord		
Dynasty® 200 DX International	#907 356	Auto-Line™ 115-460 VAC, 50/60 Hz, <b>CE.</b> 8-ft. primary cord		
Air-Cooled Packages				
Dynasty® 200 DX Contractor Kit w/Foot Control	#951 174	Auto-Line™ 115-460 VAC, 50/60 Hz, CSA. 8-ft. primary cord		
Dynasty® 200 DX Contractor Kit w/Fingertip Control	#951 175	Auto-Line™ 115-460 VAC, 50/60 Hz, CSA. 8-ft. primary cord		
Water-Cooled Packages				
Dynasty® 200 DX TIGRunner®	#907 099 021	Auto-Line™ 115 – 460 VAC, 50/60 Hz, <b>CSA.</b> 8-ft. primary cord		
Synasty 200 SX Transmiss	"001 000 021	(Torch kit and accessories sold separately)		
Dynasty® 200 DX Complete with Wireless Remote Foot Control	#951 397	Auto-Line™ 115 – 460 VAC, 50/60 Hz, <b>CSA</b> . 8-ft. primary cord		
Dynasty® 200 DX Complete w/Foot Control	#951 139	Auto-Line™ 115 – 460 VAC, 50/60 Hz, <b>CSA</b> . 8-ft. primary cord		
Dynasty® 200 DX Complete w/Fingertip Control	#951 140	Auto-Line™ 115 – 460 VAC, 50/60 Hz, <b>CSA</b> . 8-ft. primary cord		
TIG Torches, Kits and Connectors				
W-250 (WP-20) Torch Kit	#300 185			
Water-Cooled TIG Torch Connector	#195 377	Connects Weldcraft® water-cooled torches to Dinse connector		
Air-Cooled Contractor Kits	#195 054	Foot pedal		
	#195 055	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 connector Connects all air-cooled Weldcraft® torches (except A-200) to Dinse connector. A-80 (WP-24) torches require 24-5 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	115 VAC, 60 Hz. Requires coolant		
TIG Coolant (Must be ordered in quantities of four)	#043 810	1-gallon plastic bottle		
Dinse Connector 50 mm (1 male)	#042 418	Used to connect weld lead to Dinse terminal machine		
Dinse Connector 50 mm (1 male, 1 female)	#042 419	Used to extend weld cables		
Dinse/Tweco® Terminal Adapter	#042 465	Male Dinse to female Tweco		
Dinse/Cam-Lok Terminal 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			
DVD Setup Video (included with machine)	#251 116			

Date: Total Quoted Price:

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