

Dynasty® 280 Series

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

AC/DC TIG (GTAW)
Pulsed TIG (GTAW-P)
Stick (SMAW)
Air carbon arc (CAC-A)

Input Power 208–575 V, 3-phase or 1-phase power

Amperage Range 1–280 A (DC)
2–280 A (AC)

Rated Output 250 A at 20 V, 60% duty cycle

Net Weight 52 lb. (23.6 kg)



Allows for any input voltage hookup (208–575 V) with no manual linking, providing convenience in any job setting. Ideal solution for dirty or unreliable power.

Update and expand. Front panel memory card data port provides the ability to easily update software and expand product features. See memory cards on page 6. Visit MillerWelds.com/TIGSoftware for the latest software updates and expansions.



Dynasty 280 DX machine only

Dynasty 280 DX Wireless Complete

Cooler Power Supply (CPS) is an integrated 120-volt dedicated-use receptacle for the Coolmate™ 1.3. Available on select models, see page 5.

Cooler-On-Demand™ feature operates the auxiliary cooling system only when needed, reducing noise, energy use, and airborne contaminants pulled through the cooler. Available on CPS models only.

Meter calibration allows digital meters to be calibrated for certification.

Pro-Set™ eliminates the guesswork when setting weld parameters. Use Pro-Set when you want the speed, convenience and confidence of preset controls. Simply select the feature and adjust until Pro-Set appears on the display.

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.

Sleep timer conserves electricity. This programmable feature will power down the machine if it sits idle for a specified time.

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.



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



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


Weld Process Features

AC TIG

Balance control provides adjustable oxide removal which is essential for creating the highest quality aluminum welds. DX 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

Exceptionally smooth and precise arc for welding exotic materials.

AC/DC Stick

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 stability for smoother welds when AC stick welding.

Stick-Stuck detects if the electrode is stuck to the part and turns the welding output off to safely and easily remove the electrode. Menu selectable.

Specifications (Subject to change without notice.)



Welding Mode	Input Power	Welding Amperage Range	Rated Output at 60% Duty Cycle	Amps Input at Rated Load Output, 50/60 Hz							Max. Open-Circuit Voltage	Dimensions	Net Weight
				208 V	230 V	400 V	460 V	575 V	KVA	KW			
TIG (GTAW)	3-phase	2–280 A (AC) 1–280 A (DC)	250 A at 20 V	21	19	11	9	7	7.6	7.3	60 VDC (11 VDC**)	H: 13.6 in. (346 mm) W: 8.6 in. (219 mm) D: 22.5 in. (569 mm)	52 lb. (23.6 kg) 55 lb. (25 kg) with CPS
	1-phase	2–280 A (AC) 1–280 A (DC)	250 A at 20 V	35	32	18	16	13	7.3	7.1			
Stick (SMAW)	3-phase	5–280 A	250 A at 30 V	*	*	14	13	10	9.9	9.6			
	1-phase	5–280 A	180 A at 27.2 V	32	29	*	*	*	6.7	6.5			

* Refer to owner's manual for complete ratings. ** Sense voltage for low OCV stick and Lift-Arc™ TIG.

IP23 rating — This equipment is designed for outdoor use. It may be stored, but is not intended to be used outside during precipitation unless sheltered.

Operating temperature range is 14 to 104°F (-10 to 40°C). Storage temperature range is -22 to 149°F (-30 to 65°C). Portions of the preceding text are contained in EN 60974-1: "Welding power sources for arc welding equipment."

 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

Input Power	TIG (GTAW) Duty Cycle	Stick (SMAW) Duty Cycle	AC TIG Material Thickness Range	DC TIG Material Thickness Range	Stick Electrode Maximum Diameter	Carbon Arc Gouging (CAC-A) Maximum	Generator Requirement
380–575 V	280 A, 40% 250 A, 60% 200 A, 100%	280 A, 35% 200 A, 60% 160 A, 100%	0.012–3/8 in. (0.3–9.5 mm)	0.004–3/8 in. (0.1–9.5 mm)	6010: 1/4 in. (6.4 mm) 7018: 7/32 in. (5.6 mm) 7024: 3/16 in. (4.8 mm)	3/16 in. (4.8 mm)	12.5 kW
208–240 V	280 A, 40% 250 A, 60% 200 A, 100%	280 A, 15% 180 A, 60% 160 A, 100%					

Coolmate™ 1.3 Cooler



- Dynasty® models with CPS turn Coolmate 1.3 on and off
- Power indicator light
- Fluid level sight window
- Rustproof polyethylene-molded coolant tank and filler spout
- 1/4 hp motor is thermally protected to guard against overheating
- Efficient fin and tube heat exchanger
- Factory-set pressure relief valve (55 psi) maintains consistent pressure during operation
- Filter and coolant filling spout are conveniently located
- Brass-body, positive displacement rotary vane pump provides consistent coolant flow and pressure rating with long pump-life expectancy

Input Power	Maximum Current Draw	Maximum Cooling Capacity	Rated Cooling Capacity	Tank Capacity	Dimensions	Net Weight
115 V, 60 Hz	4.7 A (60 Hz)	3,400 W (11,600 Btu/hr.) 3.8 qt./min. (3.6 L/min.)	1,330 W (4,540 Btu/hr.) 1.1 qt./min. (1 L/min.)	1.3 gal. (4.9 L)	H: 11.25 in. (286 mm) W: 10.375 in. (264 mm) D: 24 in. (610 mm)	43 lb. (20 kg)

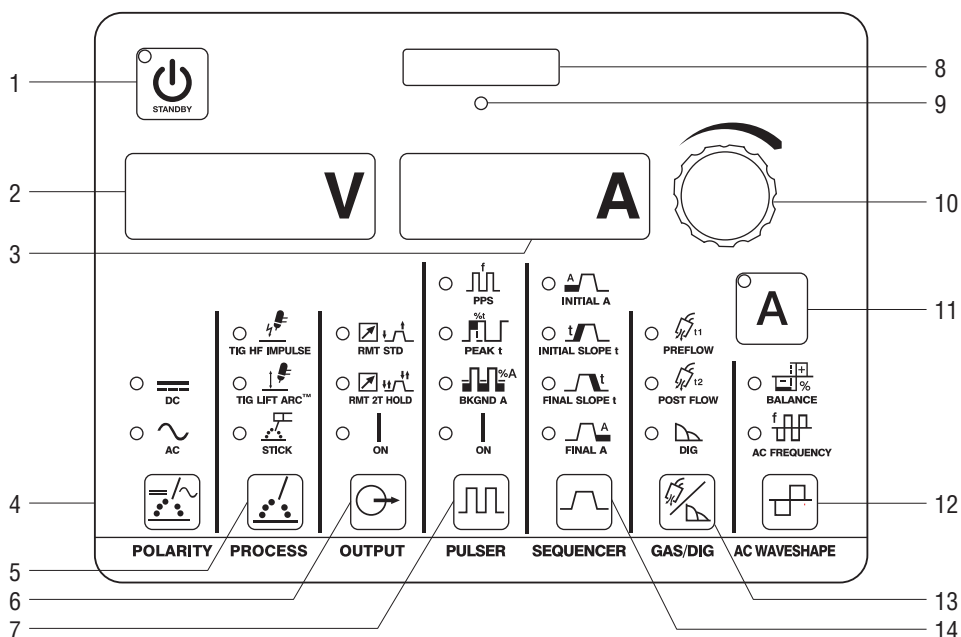
Weldcraft™ W-280 (WP-280) TIG Torch



- Two-piece torch head and exclusive Super Cool™ Technology provides additional surface area to increase cooling efficiency and capacity
- Torch body includes an anti-rotation feature and multi-position locking to prevent handle movement during welding and improve operator control
- Secure mechanical fittings and connections minimize leakage

Cooling Method	AC Rating	DC Rating	Consumables	Electrode Range	Cable
Water-cooled	195 A, 100% duty cycle	280 A, 100% duty cycle	13N	.020–1/8 in. (0.5–3.2 mm)	Three-piece

Dynasty® 280 DX Control Panel



- 1. Standby Switch
- 2. Voltmeter Display
- 3. Ammeter Display

- 4. Polarity AC/DC
- 5. Process/
Arc Starting TIG: HF impulse, Lift-Arc
Stick: Adaptive Hot Start
- 6. Output Control Standard remote,
2T trigger hold,
Output on

- 7. Pulser Control
 - Pulses per Second* DC: 0.1–500 pps
AC: 0.1–500 pps
 - Peak Time* 5–95%
 - Background Amps* 5–95%

- 8. Memory Card Port
- 9. Activity Indicator
- 10. Encoder Control

11. Amperage Button

12. AC Waveshape

- Balance* 50–99% EN
- Frequency* 20–400 Hz

13. Gas/DIG

- Preflow 0.0–25.0 seconds
- Postflow Auto/Off–50 seconds
- DIG* Off–100%

14. Sequencer Control

- Initial Amps AC: 2–280 A
DC: 1–280 A
- Initial Time 0.0–25.0 seconds
- Initial Slope 0.0–50.0 seconds
- Weld Time 0.0–999 seconds
- Final Slope 0.0–50.0 seconds
- Final Amps AC: 2–280 A
DC: 1–280 A
- Final Time 0.0–25.0 seconds

*Pro-Set parameter selectable.

User Menu (Press Gas and Amperage buttons.)

1. Tungsten Size = .020–1/8 in./GEN or .05–3.2 mm
2. Remote Trigger = 3T/4T/4TL/4TLE
3. Wave Form = SOFT/ADVS/SINE/TRI
4. Stick Hot Start = ON/OFF

Tech Menu (Hold Gas and Amperage buttons five seconds.)

1. Arc Time 0.0–9,999 hours
0.0–59 minutes
0–999,999 cycles
Resettable
2. Error Log = Error event recorder
3. Sleep Timer = 1/5/10/15/30/45MIN/1HR
4. Stick Stuc = OFF/ON
5. OCV = LOW/NORM
6. Weld Timers = OFF/ON
7. Cooler Power = AUTO/ON/OFF (only on Dynasty models with CPS)
8. Locks = OFF/1–4
9. Meter Display
10. External Pulse Control = OFF/ON
11. Machine Reset
12. Software Number
13. Serial Number

Dynasty® 280 DX Models/Packages

Build an Air-Cooled Package

Select desired stock number for each step.



907551
Dynasty shown.



301311
kit shown.

Step 1 • Select Dynasty		Step 2 • Select Contractor Kit	
Dynasty 280 DX	907551	A-150 TIG Torch and RFCS-14 HD Foot Control	301309
Dynasty 280 DX (CPS)	907514	A-150 TIG Torch with RCCS-14 Fingertip Control	301311
<i>Note: For models without the Cooler Power Supply (CPS), the Coolmate 1.3 must be powered through an external 120-volt facility power.</i>		A-200 TIG Torch with RFCS-14 HD Foot Control	301549
		A-200 TIG Torch with RCCS-14 Fingertip Control	301550
Dynasty comes with adjustable shoulder strap, 8 ft. power cord (no plug), quick-reference guide and two 50 mm Dinse-style connectors.		See page 6 for kit contents.	

Build a Water-Cooled Package

Select desired stock number for each step.



907514001
Dynasty 280
TIGRunner® shown
with four bottles
of 043810
Low-Conductivity
Coolant.



301580 remote shown.



300990 kit shown.

Step 1 • Select Dynasty TIGRunner® and Coolant		Step 2 • Select Remote Control		Step 3 • Select Torch Kit	
Dynasty 280 DX (CPS) TIGRunner	907514001	Wireless Foot (recommended)	301580	W-250 Kit	300185
&		RFCS-14 HD Foot	194744	W-280 Kit	300990
Low-Conductivity Coolant	043810	RCC-14 E/W Fingertip	151086	(recommended for 280 model)	
(Must be ordered in quantities of four.)		RCCS-14 N/S Fingertip	043688	W-375 Kit	301268
		RMS-14 Pushbutton	187208		
		RMLS-14 Momentary/Maintained	129337		
		RHC-14 Hand	242211020		
		Wireless Hand	301582		
Dynasty TIGRunner comes with 8 ft. power cord (no plug), quick-reference guide, Coolmate™ 1.3 and Small Runner™ cart.		See page 7 for remote descriptions.		See page 6 for kit contents.	

Water-Cooled Packages

Use a single stock number to order a complete preconfigured system.



951877
package shown.

Select Water-Cooled Complete Package

Dynasty 280 DX (CPS) Complete with Foot Control	951468
Dynasty 280 DX (CPS) Complete with Wireless Foot Control	951877

Comes with:

- 8 ft. power cord (no plug)
- Quick-reference guide
- Coolmate™ 1.3 300972
- Coolant (4 one-gallon bottles of 043810)
- Small Runner™ cart 301615
- Remote control 194744 (foot) **OR** remote control 301580 (wireless foot)
- W-280 torch kit 300990 (see page 6 for contents)

Genuine Miller® Accessories



2-Wheel Trolley Cart 300971
Easy-to-maneuver two-wheel cart features single-cylinder rack, chain for cylinder, cable holders, torch holder, storage area, and filler rod storage area. Works with Dynasty/Maxstar 210 and 280

with Coolmate 1.3 cooler.



Small Runner™ Cart 301615
Designed for Dynasty/Maxstar 210 and 280 with or without Coolmate 1.3 cooler. Cart features single-cylinder rack, foot pedal holder, two cable/torch holders, and two TIG filler rod holders.



Coolmate™ 1.3 300972 120 V
1.3-gallon cooler designed to cool torches up to 280 amps.



Protective Cover 301382
Fits Dynasty® 210/280 and Maxstar® 280.



Low-Conductivity Coolant 043810
Sold in cases of four one-gallon recyclable plastic bottles. Miller coolants contain a base of ethylene glycol and deionized water to protect against freezing to -37 degrees Fahrenheit (-38°C) or boiling to 227 degrees Fahrenheit (108°C). Also contains a compound that resists algae growth.



Performance TIG Gloves
263346 Small
263347 Medium
263348 Large
263349 X-Large
Completely unlined, goat grain leather with triple-padded palm.

Memory Cards

Memory Card Expansion

301151 14-Pin Automation Expansion
Provides the ability to access common automation functions through the 14-pin connection.

301152 14-Pin Modbus® Expansion
Provides the ability to access basic and advanced functions through the 14-pin connection.

301235 Independent AC Expansion
Allows EP and EN amperages and waveforms to be set independently to precisely control heat input to the work and electrode.

Memory Card (Blank) 301080
A blank, commercially available memory card used for transferring software updates and expandable features from your computer to the machine.

TIG Torches, Kits and Connectors



Contractor kit **301311** shown.

Contractor Kits

301309 A-150 with RFCS-14 HD
301311 A-150 with RCCS-14
301549 A-200 with RFCS-14 HD
301550 A-200 with RCCS-14
All-in-one TIG/stick welding kit comes with either a Weldcraft™ A-150 **OR** A-200 TIG torch, RFCS-14 HD foot control **OR** RCCS-14 fingertip control, 200-amp stick electrode holder and 300-amp work clamp with 15-foot (4.6 m) cables, flow gauge regulator with 12-foot (3.7 m) gas hose, gas hose coupler, AK2C torch accessory kit and TIG torch connector.



Weldcraft™ A-150 (WP-17) TIG Torch
WP-17-12-R (12 ft.)
WP-17-25-R (25 ft.)
150-amp air-cooled torch. Torch body gas valve models are available.

Note: A-150 (WP-17) torches require **195378** connector.



Weldcraft™ A-200 (WP-26) TIG Torch
WP-26-12-R (12 ft.)
WP-26-25-R (25 ft.)
200-amp air-cooled torch. Torch body gas valve models also available.

Note: A-200 (WP-26) torches require **195379** connector.



Weldcraft™ A-250 TIG Torch
301525025 No valve
301526025 With valve
250-amp air-cooled two-piece torch with 25-foot (7.6 m) cable.
Note: Two-piece torches require connector:
042533 Dinse-style
191981 Tweco-style



Air-Cooled TIG Torch Connectors
195379 A-200 (WP-26)
195378* All air-cooled torches (except A-200)
50 mm Dinse-style for one-piece air-cooled torch.
*A-80 (WP-24) torches require **24-5** connector.



Torch kit **300990** shown.

Water-Cooled Torch Kits

300185 W-250
300990 W-280 (recommended)
301268 W-375
Kit comes with Weldcraft™ 25-foot (7.6 m) TIG torch with Dinse-style connector, torch cable cover, work clamp with 15-foot (4.6 m) cable, flowmeter regulator with gas hose and AK4GL gas lens torch accessory kit.



Water-Cooled TIG Torch Connector 195377
50 mm Dinse-style with water return line. For use with all Weldcraft™ water-cooled torches.

Genuine Miller® Accessories

Remote Controls and Switches



Wireless Remote Foot Control 301580

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



RFCS-14 HD Foot Control 194744

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.



RCC-14 Remote Contactor and Current Control 151086

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.



RCCS-14 Remote Contactor and Current Control 043688

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.



RMS-14 On/Off Control 187208

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.



RMLS-14 Switch 129337

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.



RHC-14 Hand Control 242211020

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.



Wireless Remote Hand Control 301582

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

Educational Materials

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

Gas Tungsten Arc Welding (TIG) Publication 250833

Setup DVD 251116

Video topics include tungsten selection, setup menus, DC pulse, sequencer, balance and frequency settings.

Tungsten

Tungsten	Amp Range	2% Ceriated (AC/DC)	2% Lanthanated (AC/DC)
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® 280 DX	907551	Auto-Line™ 208–575 V, 50/60 Hz, CSA . 8 ft. power cord		
Dynasty® 280 DX (CPS)	907514	Auto-Line™ 208–575 V, 50/60 Hz, CSA . 8 ft. power cord		
Dynasty® 280 DX (CPS) International	907514002	Auto-Line™ 208–575 V, 50/60 Hz, CE . 8 ft. power cord		
Water-Cooled Packages				
Dynasty® 280 DX (CPS) TIGRunner®	907514001	Auto-Line™ 208–575 V, 50/60 Hz, CSA . 8 ft. power cord (Torch kit, accessories and coolant sold separately)		
Dynasty® 280 DX (CPS) Complete w/Foot Control	951468	Auto-Line™ 208–575 V, 50/60 Hz, CSA . 8 ft. power cord		
Dynasty® 280 DX (CPS) Complete w/Wireless Foot Control	951877	Auto-Line™ 208–575 V, 50/60 Hz, CSA . 8 ft. power cord		
Accessories				
2-Wheel Trolley Cart	300971	For Dynasty/Maxstar 210 and 280 with or without Coolmate 1.3		
Small Runner™ Cart	301615	For Dynasty/Maxstar 210 and 280 with or without Coolmate 1.3		
Coolmate™ 1.3	300972	120 V, 60 Hz, CSA . <i>Requires coolant</i>		
Protective Cover	301382	For Dynasty 210/280 and Maxstar 280		
TIG Coolant (must be ordered in quantities of four)	043810	1-gallon plastic bottle. Protects against freezing to -37° Fahrenheit (-38°C) or boiling to 227° Fahrenheit (108°C)		
TIG Gloves		See page 6		
Memory Cards		See page 6		
TIG Torches, Kits and Connectors				
Air-Cooled Contractor Kits		See page 6		
Weldcraft™ A-150 (WP-17) TIG Torch	WP-17-12-R WP-17-25-R	12 ft. (3.7 m) cable. Requires 195378 connector 25 ft. (7.6 m) cable. Requires 195378 connector		
Weldcraft™ A-200 (WP-26) TIG Torch	WP-26-12-R WP-26-25-R	12 ft. (3.7 m) cable. Requires 195379 connector 25 ft. (7.6 m) cable. Requires 195379 connector		
Weldcraft™ A-250 TIG Torch	301525025 301525026	No valve. 25 ft. (7.6 m) cable With valve. 25 ft. (7.6 m) cable		
Air-Cooled TIG Torch Connectors	195379 195378	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		
Water-Cooled Torch Kits		See page 6		
Water-Cooled TIG Torch Connector	195377	Connects Weldcraft™ water-cooled torches to Dinse-style connector		
Tungsten		See page 7		
Remote Controls		See page 7		
Educational Materials		See page 7		

Date:

Total Quoted Price:

Distributed by:

