



MIG/TIG/STICK WELDING &  
GOUGING POWER SOURCE



# DYNASTY® 300 MULTI-PROCESS

P/N: MR907819002

**The Dynasty® 300 multi-process,  
paired with ArcReach® suitcase  
feeder, provides a superior solution  
for portable applications.**

- State-of-the-art LCD interface.
- Multi-process capabilities.
- Premium results.



**3YEAR**  
WARRANTY

For details, refer to  
Miller's True Blue  
Warranty Statement.



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## INDUSTRIAL APPLICATIONS

Aerospace

Heavy Fabrication

Precision Fabrication

Aluminum Ship Repair

Pipe and Tube Fabrication

Anodized Aluminum Fabrication

Rental

Shipbuilding

Construction

Maintenance &amp; Repair

## PROCESSES

AC/DC TIG (GTAW)

Pulsed TIG (GTAW-P)

Stick (SMAW)

Air Carbon Arc (CAC-A)

MIG (GMAW)

Flux-Cored (FCAW)

## PRODUCT SPECIFICATIONS

Welding Mode	Input Power 50/60Hz	Welding Amperage Range	Rated Output at 60% Duty Cycle	230V	400V	KVA	Max. Open Circuit Voltage	Dimensions	Net Weight
TIG (GTAW)	3 - phase	2-300A (AC) 1-300A (DC)	250A at 20V	*	10A	7.5	30 VDC** 60 VDC	H: 352mm W: 216mm D: 555mm	25kg
	1 - phase	2-300A (AC) 1-300A (DC)	250A at 20V	30A	*	6.7			
Stick (SMAW)	3 - phase	5-300A	250A at 30V	*	14A	9.8			
	1 - phase	5-300 A	200A at 27.2V	32A	*	9.3			
MIG (GMAW)	3 - phase	5-300 A	250A at 26.5V	*	12A	8.9			
Flux-Cored (FCAW)	1 - phase	5-300 A	200A at 24V	28A	*	6.2			

\*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 -10 to 40°C. Storage temperature range is -30 to 65°C. Portions of the preceding text are contained in EN 60974-1: "Welding power sources for arc welding equipment."

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## PERFORMANCE DATA

Input Power	TIG (GTAW) Duty Cycle	Stick (SMAW) Duty Cycle	MIG (GMAW) Flux-Cored (FCAW) Duty Cycle	AC TIG Material Thickness	DC TIG Material Thickness	Stick Electrode Max. Diameter	Carbon Arc Gouging (CAC-A) Max.	Generator Requirement
380-600V	300A, 35% 250A, 60% 200A, 100%	300A, 25% 250A, 60% 200A, 100%	300A, 25% 250A, 60% 200A, 100%	0.3–9.5 mm	0.1–9.5 mm	6.4 mm	4.8 mm	12.5 kW
208-240V	300A, 35% 250A, 60% 200A, 100%	300A, 15% 200A, 60% 150A, 100%	300A, 20% 200A, 60% 160A, 100%					

Material Type	Wire Diameter					
	0.6 mm	0.8 mm	0.9 mm	1.2mm	1.6 mm	2.0mm
Solid wire (steel/SS)	●	●	●	●		
Aluminium			●	●	●	
Dual (gas) shielded flux-cored/metal core			●	●	●	○
Self-shielded flux-cored		●	●	●	●	●

● Recommended - refer to wire manufacturer specifications for output requirements.

● Gun length may affect feedability.

○ Limited capability.

### EASY-TO-UNDERSTAND INTERFACE WITH 114MM LCD DISPLAY

- Ensures proper machine setup and parameter selection.
- Informative on-screen explanations and dynamic images enhance the parameter selection process.

### PROGRAM MEMORY

- Allows easy naming, saving and recalling of favorite weld settings.
- Deliver more productivity by eliminating the need to manually set the parameters.
  - Deliver consistent quality by welders of all skills.

### PRO-SET™

Eliminates the guesswork when setting weld parameters.

### LOCKS AND LIMITS

Provides control of weld parameter ranges minimising deviation from the welding procedure specification (WPS).

### QUIETPULSE™

Activate QuietPulse™ by selecting sine or triangular waveshape to reduce audible noise.

### AUTO-LINE™ TECHNOLOGY

Allows for any input voltage hookup (208–600 V) with no manual linking, providing convenience in any job setting. Ideal solution for dirty or unreliable power.

### BLUE LIGHTNING™

Provides more consistent high-frequency (HF) arc starts and greater reliability compared to traditional arc starters.

### LIFT-ARC™

Provides AC or DC arc initiation without the use of high frequency.

### USB

Front panel port provides the ability to easily update software, back-up settings and transfer saved weld programs from one unit to the next.

### COOLER POWER SUPPLY (CPS)

An integrated 120-volt dedicated-use receptacle for the Coolmate™ 1.3.

### COOLER-ON-DEMAND™

Operates the auxiliary cooling system only when needed, reducing noise, energy use, and airborne contaminants pulled through the cooler.



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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.

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

#### AC Waveforms

-  **Advanced square** provides a fast freezing puddle, deep penetration and fast travel speeds.
-  **Soft square** for a soft buttery arc with maximum puddle control and good wetting action.
-  **Sine** for customers that like a traditional arc. Quiet with good wetting.
-  **Triangular** reduces the heat input and is good on thin aluminum. Fast travel speeds.




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

### DC TIG

**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.

#### Pulse Waveforms

-  **Square** provides a fast freezing puddle for ultimate arc control.
-  **Sine** produces a reduced audible sound and provides a more fluid puddle that is good for overlaying applications.
-  **Triangular** provides a quick-forming puddle while further reducing heat for thin materials.

**QuietPulse™.** Activate QuietPulse™ by selecting sine or triangular waveshape to reduce audible noise.

### 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.

### MIG

CV output of the power source gives this unit MIG process capabilities when paired with an ArcReach® Suitcase feeder (or other voltage-sensing feeder). The feeder is powered off the arc voltage of the power source and can run both solid and flux-cored wires.

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## ARCREACH® SUITCASE 12 (Note: Dynasty® 300 models are not capable of ArcReach® control.)



Voltage-sensing, portable feeders designed to run off of arc voltage from almost any welding power source, provide extreme reliability for construction and fabrication.

- Scaled wire pressure knob provides easy adjustment and consistent pressure on the drive rolls and wire.
- Wire drive and motor assembly is specifically designed for mobile welding applications to provide smooth and consistent wire delivery.

- Gun locking tab works with guns having corresponding locking grooves to prevent gun from being pulled out if the feeder is dragged by the gun.
- Ultra-low drag inlet guide pins make loading the wire easy and do not deform the wire on the way into the drive rolls.

Model	Input Power	Input Welding Circuit Welding	Wire Feed Speed	Wire Type & Diameter Capacity	Max. Spool Size Capacity	Dimensions	Net Weight
8	Operates on open-circuit voltage and arc voltage: 14-48 VDC/110 max. OCV	330A at 60% Duty Cycle	1.3-19.8m/min dependent on arc voltage	Solid Wire: 0.6-1.4mm Flux-Cored: 0.8-2.0mm	203mm, 6.4kg	H: 324mm W: 184mm D: 457mm	13kg
12		425A at 60% Duty Cycle		Solid Wire: 0.6-1.4mm Flux-Cored: 0.8-2.0mm	305mm, 20kg	H: 394mm W: 229mm D: 533mm	15.9kg

## COOLMATE™ 1.3



- Dynasty® 300 models turn Coolmate 1.3 on and off.
- Power indicator light.
- Fluid level sight window.
- Rustproof polyethylene-molded coolant tank and filter spout.
- 1/4hp motor is thermally protected to guard against overheating.
- Efficient fin and tube heat exchanger.

- Factory-set pressure relief valve (55psi) 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.

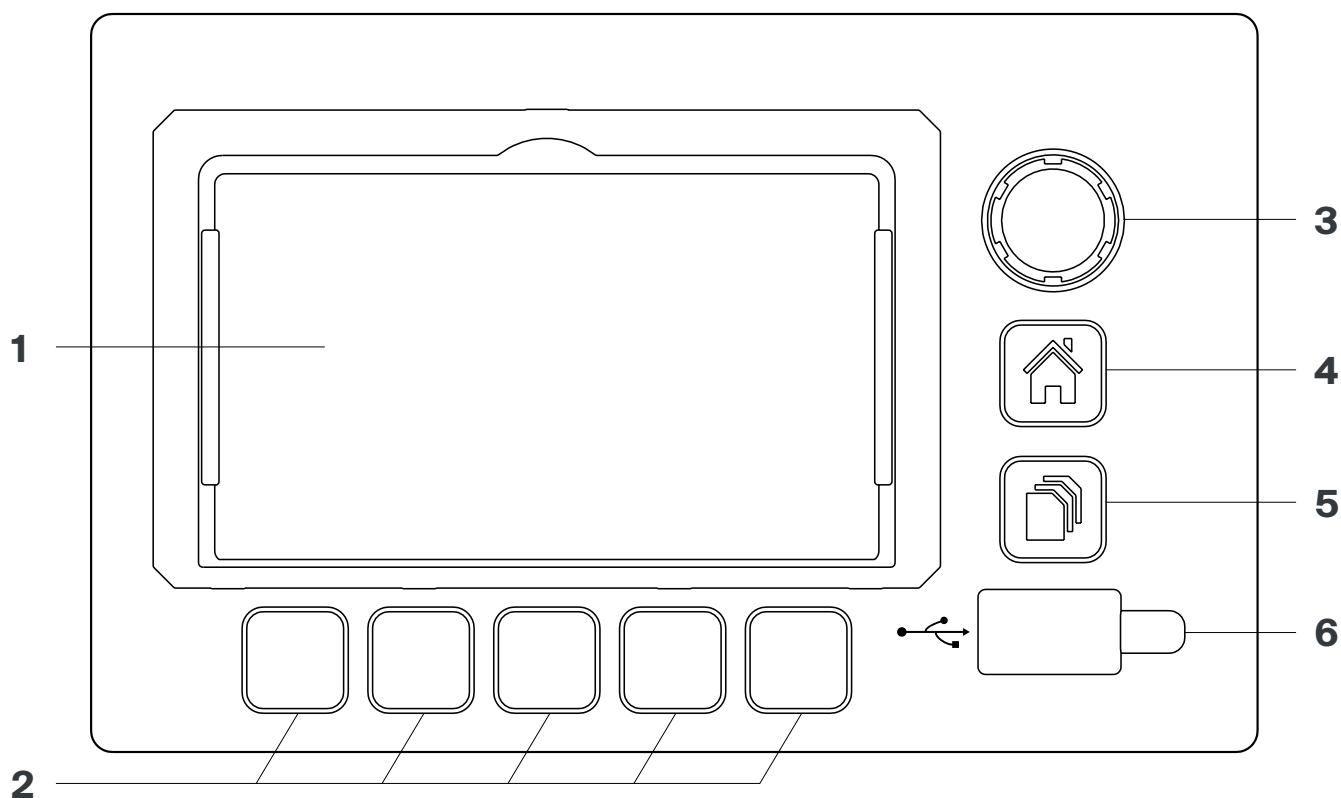
Input Power	Maximum Current Draw	Maximum Cooling Capacity	Rated Cooling Capacity	Tank Capacity	Dimensions	Net Weight
115V, 50/60Hz	5.9A (50Hz) 4.7A (60Hz)	3,400W (11,600 Btu/hr.) 3.8qt/min (3.6L/min)	1,330W (4,540 Btu/hr) 1.1qt/min (1L/min)	1.3gal (4.9L)	H: 286mm W: 264mm D: 610mm	21kg



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## DYNASTY® 300 MULTI-PROCESS CONTROL PANEL



- 1 - Color LCD Display
- 2 - Soft Keys (Multiple functions depending on screen displayed.)
- 3 - Control Knob (Adjusts amperage or parameter values depending on mode.)
- 4 - Home Button
- 5 - Program Button
- 6 - USB Port



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## DYNASTY® 300 MULTI-PROCESS CONTROL PANEL

<b>AMPERAGE</b>	TIG AC: 2-300 A** TIG DC: 1-300 A** Stick: 5-300 A		
<b>PROCESS</b>	AC TIG HF, DC TIG HF, AC TIG Lift-Arc™, DC TIG Lift-Arc™, AC Stick, DC Stick, Carbon Arc Gouge, MIG: Voltage-sensing feeder	<b>SEQUENCER CONTROL</b>	Initial Amps AC: 2-300 A** Initial Amps DC: 1-300 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: 2-300 A** Final Amps DC: 1-300 A** Final Time: 0.0-25.0 seconds
<b>TUNGSTEN</b>	.05, 1.0, 1.6, 2.4, 3.2mm	<b>PREFLOW</b>	0.0-25.0 seconds
<b>TRIGGER</b>	Remote Standard: Foot, Finger, Pushbutton Sequencer: Pushbutton Hold (2T), 3T, 4T, 4TE, 4TL, 4TM	<b>POSTFLOW</b>	Auto/Off-50 seconds
<b>PULSE</b>	Pulses Per Second*: DC: 0.1-500 pps AC: 0.1-500 pps Peak Time*: 5-95% Background Amps*: 5-95% DC Pulse Waveshape: Square, Sine, Triangular	<b>DIG*</b>	Off-100%
		<b>HOT START™</b>	On, Off
		<b>STICK-STUCK</b>	On, Off
		<b>OCV</b>	Normal, Low
<b>AC WAVESHAPE</b>	Balance*: Ball: 30-99% EN Frequency*: 20-400 Hz Waveshape: Advanced Square, Soft Square, Sine, Triangular Independent amplitude/amperage: EN/EP Amperage: 2-300 A** Commutation - Low, High	<b>PROGRAMS</b>	1-99 (user defined program names)
		<b>LOCKS AND LIMITS</b>	Individual Parameters
		<b>LANGUAGES</b>	English, Spanish, French, German, Italian, Dutch, Swedish, Polish

\*Pro-Set parameter selectable.

\*\*Amperage range is tungsten size dependent.



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## ORDERING INFORMATION - AVAILABLE BASE PACKAGES

POWER SOURCE	Part No.	Suggested Packages		
		TIG Air Cooled	TIG Water Cooled	MIG
Dynasty® 300 Multi-Process	MR907819002			
<b>TIG Kits</b>				
TIG KIT Air cooled - Suit Miller® - c/w 26FX Tig Torch x 4m, 5m Work Lead 35mm <sup>2</sup> , 5m Gas Hose, 5/8" male fittings, Argon Reg	KIT0006	●		
TIG KIT Water Cooled - Suit Miller® - c/w 18FX Tig Torch x 8m, 5m Work Lead 50mm <sup>2</sup> , 5m Gas Hose, Argon Reg	KIT0008		●	
<b>Leads</b>				
MMAW Work Lead 35mm <sup>2</sup> X 5m with 300 amp Work clamp	AA75-1/5			
MMAW Weld Lead 35mm <sup>2</sup> X 5m with 400amp Twist Holder	AA73-1/5	●		
MMAW Weld Lead 50mm <sup>2</sup> X 10m with 400A Twist Holder	AA73-1/10		●	
MMAW Work Lead 50mm <sup>2</sup> x 10m with 500A Work Clamp	AA74-1/10			
<b>TIG Torches</b>				
TIG Torch 18 350A 8m Water Cooled 14PIN	TIG009			
TIG Torch 26FX 200 A 8m Flex 14PIN	TIG006			
<b>Coolers</b>				
Coolmate™ 1.3 115V suit Dynasty® 210 / 300	MR301616		●	
Coolant	MR043810		●	
<b>Carts</b>				
Small Runner™ Cart to suit Dynasty® 210/300 Maxstar® 210DX	MR301615		●	●





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		TIG Air Cooled	TIG Water Cooled	MIG
Dynasty® 300 Multi-Process	MR907819002			
<b>Remote Controls</b>				
RCC-14 TIG torch fingertip current control	MR151086			
RHC-14 Remote hand current control	MR242211020			
Wireless hand control & 14 pin receiver	MR301582			
Wireless foot control & 14 pin receiver	MR301580	●	●	
<b>Regulators</b>				
Regulator Argon	REG003	●	●	●
<b>Wire Feeder Option - Dynasty® 300 Multi Only</b>				
ArcReach® SuitCase 12 Wire Feeder	MR301456			●
Lead Kit 70mm <sup>2</sup> Dinse x 10m inc work lead, weld lead, gas hose.	AM362-0/10			●
<b>MIG Gun Options</b>				
440 A MIG Gun - 4.6m, Miller®	BEQ4015AH8EMC			●
IronPro™ 350 A MIG Gun - 4.57m, 45 Degree Long Neck	BEGL3515MLNM			
<b>Drive Roll Kits for Miller ArcReach® Suitcase 12 Wire Feeder</b>				
V Groove Drive Roll Kit 0.8-0.9mm	MR204579			
V Groove Drive Roll Kit 0.9-1.2mm	MR190300			●
V Groove Knurled Drive Roll Kit 0.9mm	MR079606			
V Groove Knurled Drive Roll Kit 1.2-1.6mm	MR238687			
V Groove Knurled Drive Roll Kit 1.7-1.8mm	MR089984			
U Groove Drive Roll Kit 1.2mm	MR079599			