

Maxstar[®] 280 Multiprocess

Multiprocess Welding Power Source 

Quick Specs



Industrial Applications

Shipbuilding
Construction
Rental
Maintenance and repair
Heavy fabrication
Pipe and tube fabrication
Petrochemical

Processes

DC TIG (GTAW)
Pulsed TIG (GTAW-P)
Stick (SMAW)
Air carbon arc (CAC-A)
MIG (GMAW)*
Flux-cored (FCAW)*

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

Amperage Range 1–280 A (DC)

Voltage Range 14–28 V (DC)

Rated Output 200 A at 28 V, 60% duty cycle

Net Weight 47 lb. (21.3 kg)

**With ArcReach SuitCase feeder.*

The Maxstar 280 Multiprocess, paired with an ArcReach[®] SuitCase[®] feeder, provides a superior solution for all portable applications.

With multiprocess capabilities and features like Auto-Line[™], pulse and high-frequency arc starts, the Maxstar 280 Multiprocess is the most versatile, portable machine in its class.

QUIETPULSE[™]

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



Maxstar 280 Multiprocess (907552001) shown with ArcReach SuitCase 12 feeder (951729001).

Note: Maxstar 280 is not capable of ArcReach control.



More Jobsite Productivity and Efficiency

DC CC/CV multiprocess equipment means always having the right equipment for the job. This also simplifies logistics and translates into less time locating and moving equipment and more time welding.



Reduced Training Time

Reduced training time by utilizing one piece of equipment, saving labor costs and helping to keep projects on schedule.



Improved Jobsite Safety

Portable welding equipment allows for easy movement of equipment to point of use. The chances of slip, trip or fall injuries are virtually eliminated because there is no need to travel through multi-story and cluttered jobsites, since the power source is point of use.



Increased Uptime

Low power draw can mean additional welding equipment on the same circuit, getting work done faster by reducing the chances of power outages from tripped breakers or blown fuses.



More Operator Control

Weld operators can quickly and easily adjust parameters, reducing the risk of operators trying to get by with less than ideal settings. Also, state-of-the-art TIG functions such as pulse, and high-frequency starting allow for optimization for virtually any material type.



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



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Weld Process Features


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. DX models provide extended ranges.

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.

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

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.

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	1–280 A	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)	47 lb. (21.3 kg)
	1-phase	1–280 A	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			
MIG (GMAW)/ Flux-cored (FCAW)	3-phase	5–280 A	250 A at 26.5 V	*	*	13	11	9	9.2	8.9			
	1-phase	5–280 A	200 A at 24 V	31	29	*	*	*	6.5	6.3			

* Refer to owner's manual for complete ratings. ** Low OCV sense voltage for 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.

Performance Data

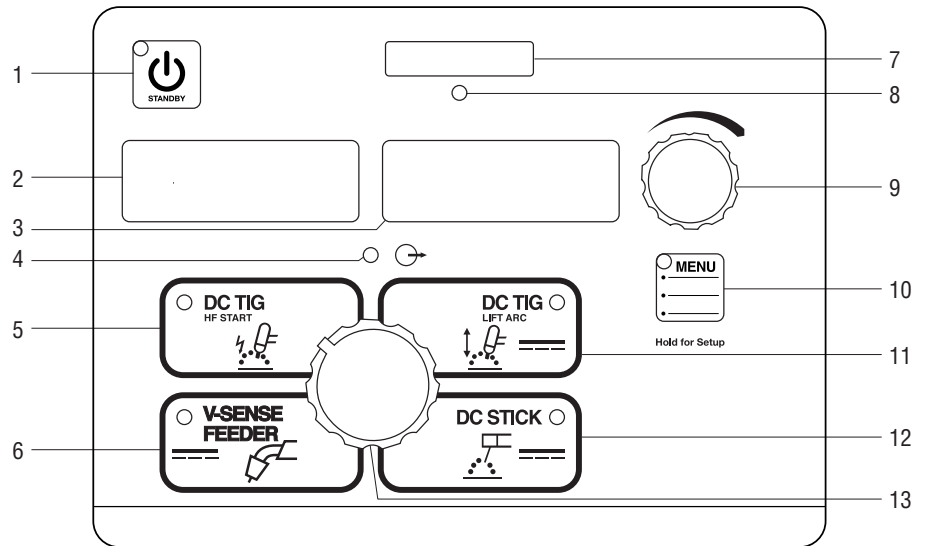
Input Power	TIG (GTAW) Duty Cycle	Stick (SMAW) Duty Cycle	MIG (GMAW)/ Flux-cored (FCAW) Duty Cycle	TIG Material Thickness Range	Stick Electrode Max. Diameter	Air Carbon Arc Gouging (CAC-A) Max.	MIG Ranges	Generator Requirement
380–575 V	280 A, 40% 250 A, 60% 200 A, 100%	280 A, 35% 250 A, 60% 200 A, 100%	280 A, 35% 250 A, 60% 200 A, 100%	0.004–3/8 in. (0.1–9.5 mm)	6010: 1/4 in. (6.4 mm)	3/16 in. (4.8 mm)	Voltage: 14–28 V Wire speed: 50–780 ipm (1.3–19.8 m/min.) Solid wire: .023–.052 in. (0.6–1.4 mm) Flux-cored: .030–.052 in. (0.8–1.4 mm)	12.5 kW
208–240 V	280 A, 40% 250 A, 60% 200 A, 100%	280 A, 15% 180 A, 60% 145 A, 100%	280 A, 20% 200 A, 60% 160 A, 100%		7018: 7/32 in. (5.6 mm) 7024: 3/16 in. (4.8 mm)			

Material Type	Wire Diameter						
	.024 in.	.030 in.	.035 in.	.045 in. 3/64 in. Al	.052 in.	1/16 in.	5/64 in.
Solid wire (steel/SS)	●	●	●	●	○		
Aluminum			●	●		●	
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.

Maxstar® 280 Multiprocess Control Panel

1. Standby Switch
2. Voltmeter Display
3. Ammeter Display
4. Output Contactor "On" Indicator
5. DC TIG (HF Start) Process Menu Parameters
 - Amperage 1–280 A**
 - Pulse* Off–250 pps
 - Postflow Auto/Off–50 seconds
6. MIG Volt Sense Feeder
 - Voltage 14–28 V
 - Arc Control 0–99% (solid wire - EP)
(Inductance) Flux Core (flux-cored wire - EN)
7. Memory Card Port
8. Activity Indicator
9. Encoder Control
10. Menu Ranges
11. DC TIG (Lift-Arc) Process Menu Parameters
 - Amperage 1–280 A**
 - Pulse* Off–250 pps
 - Postflow Auto/Off–50 seconds
12. DC Stick Process Menu Parameters
 - Amperage 5–280 A
 - DIG* Off–100%
13. Process Selector



*Pro-Set parameter selectable.
**Amperage range is tungsten-size dependent.

ArcReach® SuitCase® 8 and 12 (Note: Maxstar 280 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 Rating	Wire Feed Speed	Wire Type and Diameter Capacity	Max. Spool Size Capacity	Dimensions	Net Weight
8	Operates on open-circuit voltage and arc voltage: 14–48 VDC/110 max. OCV	330 A at 60% duty cycle	50–780 ipm (1.3–19.8 m/min.) dependent on arc voltage	Solid wire: .023–.052 in. (0.6–1.4 mm) Flux-cored: .030–5/64 in. (0.8–2.0 mm)	8 in. (203 mm) 14 lb. (6.4 kg)	H: 12.75 in. (324 mm) W: 7.25 in. (184 mm) D: 18 in. (457 mm)	28 lb. (13 kg)
12		425 A at 60% duty cycle		Solid wire: .023–.052 in. (0.6–1.4 mm) Flux-cored: .030–5/64 in. (0.8–2.0 mm)	12 in. (305 mm) 45 lb. (20 kg)	H: 15.5 in. (394 mm) W: 9 in. (229 mm) D: 21 in. (533 mm)	35 lb. (15.9 kg)

MIG Consumables

Individual Rolls/Tips	Drive Rolls (Two required.)				Contact Tips
	V-groove for hard wire	U-groove for soft wire or soft-shelled cored wires	V-knurled for hard-shelled cored wires	U-cogged for extremely soft wire or soft-shelled cored wires (i.e., hard facing types)	AccuLock™ S
.023 in. (0.6 mm)	087130	—	—	—	T-A023CH
.030 in. (0.8 mm)	053695	—	—	—	T-A030CH
.035 in. (0.9 mm)	053700	072000	132958	—	T-A035CH
.040 in. (1.0 mm)	053696	—	—	—	T-A039CH
.045 in. (1.1/1.2 mm)	053697	053701	132957	083489	T-A045CH
.052 in. (1.3/1.4 mm)	053698	053702	132956	083490	T-A052CH
1/16 in. (1.6 mm)	053699	053706	132955	053708	T-A062CH
.068/.072 in. (1.8 mm)	—	—	132959	—	T-A072CH
5/64 in. (2.0 mm)	—	053704	132960	053710	T-A078CH

Select drive rolls from chart according to type and wire size being used. Wire inlet guide comes installed on ArcReach SuitCase wire feeders.

Genuine Miller® Accessories



2-Wheel Trolley Cart 300971
Easy-to-manuever two-wheel cart features single-cylinder rack, chain for cylinder, cable holders, torch holder, storage area, and filler rod storage area.



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.



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.



QuietPulse™ Memory Card Expansion 301790
For machines manufactured prior to serial number ND040985L. Adds QuietPulse feature.



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.

Wire Feeders and MIG Guns

ArcReach® SuitCase® 8 951726001 With Bernard® BTB Gun 300 A
951728 With Bernard® Dura-Flux™ gun

ArcReach® SuitCase® 12 951729001 With Bernard® BTB Gun 300 A
951731 With Bernard® Dura-Flux™ gun

Portable feeder designed to run off of arc voltage. Holds up to an 8-inch (SuitCase 8) or 12-inch (SuitCase 12) spool of wire. See literature M/6.55.
Note: Maxstar 280 is not capable of ArcReach control.

Bernard® BTB Gun 300 A
Rugged and reliable 300-amp MIG (GMAW) welding guns. See Bernard literature SP-BTB.

TIG Torch

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: Requires 191981 Tweco-style connector



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.

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.



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.

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

Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Maxstar® 280 Multiprocess	907552001	Auto-Line™ 208–575 V, 50/60 Hz with Tweco-style connectors		
Accessories				
2-Wheel Trolley Cart	300971	For Dynasty 210/300 and Maxstar® 210/280 with or without Coolmate 1.3		
QuietPulse™ Memory Card Expansion	301790	For machines manufactured prior to serial number ND040985L		
TIG Torch				
Weldcraft™ A-250 TIG Torch	301525025 301525026	No valve. 25 ft. (7.6 m) cable. Requires 191981 Tweco connector With valve. 25 ft. (7.6 m) cable. Requires 191981 Tweco connector		
Remote Controls				
		See above		
Wire Feeders, MIG Guns and Consumables				
ArcReach® SuitCase® 8 (see literature M/6.55)	951726001 951728	With Bernard® BTB Gun 300 A With Bernard® Dura-Flux™ gun		
ArcReach® SuitCase® 12 (see literature M/6.55)	951729001 951731	With Bernard® BTB Gun 300 A With Bernard® Dura-Flux™ gun		
Bernard® BTB Gun 300 A		See Bernard® literature SP-BTB		
Drive Rolls		See page 3		
Contact Tips		See page 3		
Educational Materials				
		See above		

Date:

Total Quoted Price:



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