

# Maxstar® 400

TIG/Stick Welding  
Power Source



## Quick Specs



### Industrial Applications

Precision fabrication  
Tube mills  
Pipe and tube fabrication  
Tool and die  
Exotic material fabrication  
Pressure vessel fabrication

### Processes

TIG (GTAW)  
Pulsed TIG (GTAW-P)  
Stick (SMAW)  
Air carbon arc (CAC-A)  
6 mm maximum

### Input Power

208–600 V, 3-phase or 1-phase power

### Amperage Range

3–400 A

### Rated Output

300 A at 32 V, 60% duty cycle

### Net Weight

57 kg (126 lb.)

## Reimagined for Your Pursuit of Perfection.

Unlock your full potential with the new Maxstar® 400 advanced DC TIG welder. Now equipped with an intuitive LCD interface that puts precision welding capabilities at your fingertips. Demand more from your machine and achieve results that you never thought were possible.



Easy-to-understand interface with 17,5 cm LCD display.

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



Maxstar® 400 machine only



Maxstar® 400 Tigrunner®



## QUIETPULSE™

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

**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.

## 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.

**Program memory** allows easy naming, saving and recalling of favourite 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 minimizing deviation from the welding procedure specification (WPS).

**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.

Visit [MillerWelds.com/TIGSoftware](http://MillerWelds.com/TIGSoftware) for the latest software updates and expansions.

**Cooler Power Supply (CPS)** is an integrated 120-volt dedicated-use receptacle for the Coolmate™ 3.5.

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



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



### International Headquarters Miller Electric Mfg. LLC

An ITW Welding Company  
1635 W. Spencer Street  
Appleton, WI 54914 USA

[MillerWeldsEurope.com](http://MillerWeldsEurope.com)

### Miller Europe

Orbitalum Tools GmbH  
Josef Schuettler Str. 17  
78224 Singen, Germany

Tel.: +49 7731 792 400  
[sales.MILLER@ITWwelding.com](mailto:sales.MILLER@ITWwelding.com)

### ITW WELDING Sales Office UK

77 New Court Way  
Ormskirk, Lancashire L39 2YT  
United Kingdom

Tel.: +44 1695 585 910  
[sales.UK@ITWwelding.com](mailto:sales.UK@ITWwelding.com)

## 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. These 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.

### 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.)



Input Power	Welding Amperage Range	Rated Output	Amps Input at Rated Load Output, 50/60 Hz						Max. Open-Circuit Voltage	Dimensions	Net Weight	
			208 V	230 V	400 V	460 V	600 V	KVA				KW
3-phase	3–400 A	250 A at 30 V, 100% duty cycle	27	24	14	12	9	9.4	9.1	75 VDC (10–15 VDC*)	H: 613 mm W: 352 mm D: 618 mm  with TIGRunner® H: 1095 mm W: 587 mm D: 1057 mm	57 kg  112 kg
		300 A at 32 V, 60% duty cycle	33	30	17	15	11	12	11.6			
1-phase	3–400 A	200 A at 28 V, 100% duty cycle	36	33	18	15	11	7.4	6.9			
		250 A at 30 V, 60% duty cycle	48	43	24	20	15	10	9.2			

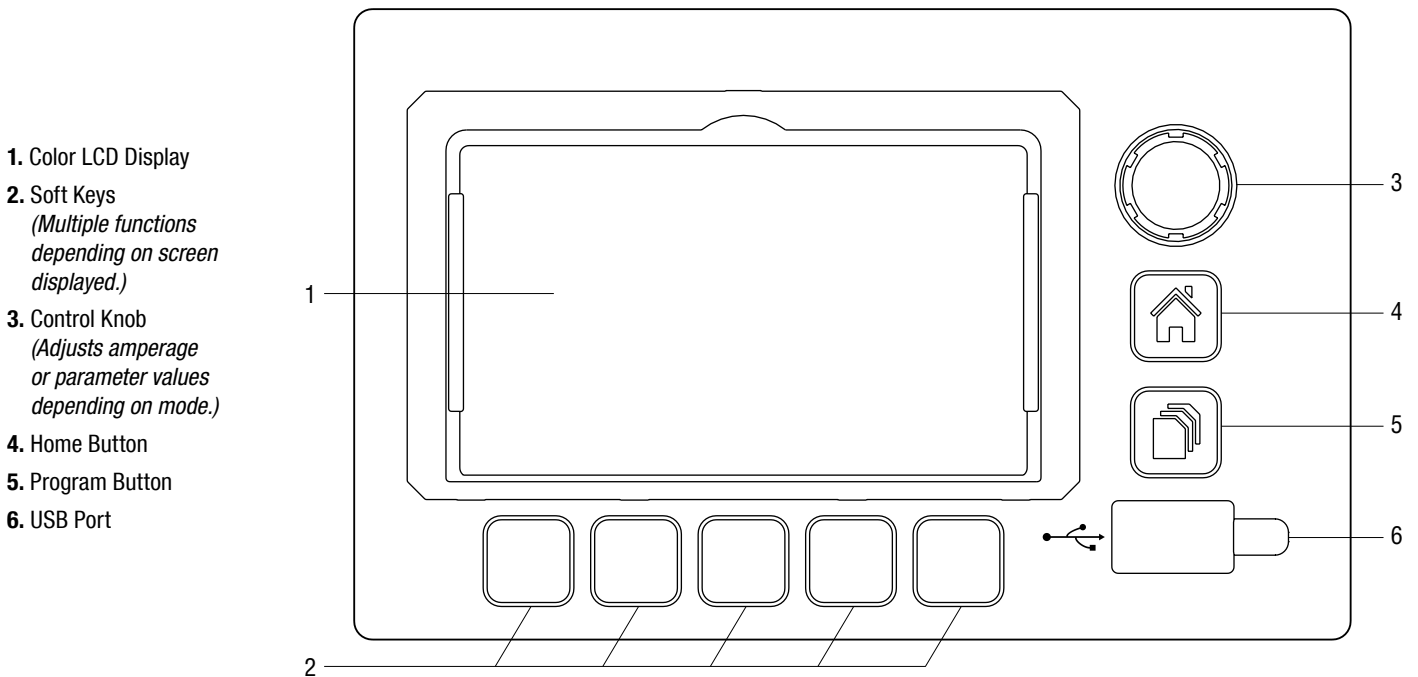
**CE** All CE models conform to the applicable parts of the IEC 60974 series of standards.

\*Indicates sense-voltage for Lift-Arc™ TIG and low OCV stick.

## Performance Data

Input Power	TIG (GTAW) Duty Cycle	Stick (SMAW) Duty Cycle	DC TIG Material Thickness Range	Stick Electrode Maximum Diameter	Carbon Arc Gouging (CAC-A) Maximum	Generator Requirement
3-phase	400 A, 20% 300 A, 60% 250 A, 100%	400 A, 20% 300 A, 60% 250 A, 100%	0.3–15.9 mm	6010: 6.4 mm 7018: 6.4 mm 7024: 6.4 mm	6.4 mm	20 kVA
1-phase	300 A, 20% 250 A, 60% 200 A, 100%	300 A, 20% 250 A, 60% 200 A, 100%				

# Dynasty® 400 and 800 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

## Amperage

TIG DC	3–400 A**
Stick	5–400 A

## Process

DC TIG HF, DC TIG Lift-Arc™, DC Stick, Carbon Arc Gouge

## Tungsten (mm)

0.5, 1.0, 1.6, 2.4, 3.2, 4.0, 4.8, General

## Trigger

Remote Standard: Foot, Finger, Pushbutton  
Sequencer: Pushbutton Hold (2T), 3T 4T, 4TE, 4TL, 4TM

## Pulse

Pulses per Second*	DC: 0.1–5,000 pps
Peak Time* 5–95%	5–95%
Background Amps*	5–95%
DC Pulse Waveshape:	Square, Sine, Triangular

## Sequencer Control

Initial Amps DC	3–400 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 DC	3–400 A**
Final Time	0.0–25.0 seconds

## Preflow

0.0–25.0 seconds

## Postflow

Auto/Off–50 seconds

## DIG\*

Off–100%

## Hot Start™

On, Off

## Stick-Stuck

On, Off

## OCV

Normal, Low

## Programs

1–99 (user defined program names)

## Locks and Limits

Individual Parameters

## Languages

English, Spanish, French, German, Italian, Dutch, Swedish, Polish

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

## TIG Torch Kits and Connectors for Dynasty® 400

The Miller TIG torches have been designed to perfectly match and to ensure that the welder can fully benefit from the superior arc quality of the Miller Dynasty®. The material has been carefully selected to prevent ageing and leakage in the hoses and cables. Miller uses more copper in the power cable to minimize the heat losses and maximize the output.

The TIG torches can be configured with a standard torch head or a flexible alternative. The ergonomic handle can also be fitted with a remote control for adjustment of the weld current at the point of welding.

The torches come equipped with a 2.4 mm Miller®/Weldcraft® 2% lanthanated tungsten electrode.

The blue electrode ensures a stable arc in both AC and DC processes, with greater longevity than conventional tungsten electrodes, the ability to use a smaller-diameter electrode for the same job, use of a higher current for a similar-sized electrode, and less tungsten spitting.



*\*Remote current control from the thumb wheel, available as an option on all models*

Torch	Stock No.	Technical description	DC current	AC current
EuroTorch W-350, 4 meter	058022001	50 mm <sup>2</sup> Dinse, 5/8" gas, Water quick connect, 14 pin control	350A @ 100%	250A @ 100%
EuroTorch W-350R, 4 meter	058022002	50 mm <sup>2</sup> Dinse, 5/8" gas, Water quick connect, 14 pin control	350A @ 100%	250A @ 100%
EuroTorch W-350, 8 meter	058022003	50 mm <sup>2</sup> Dinse, 5/8" gas, Water quick connect, 14 pin control	350A @ 100%	250A @ 100%
EuroTorch W-350R, 8 meter	058022004	50 mm <sup>2</sup> Dinse, 5/8" gas, Water quick connect, 14 pin control	350A @ 100%	250A @ 100%
EuroTorch W-270, 4 meter	058022005	50 mm <sup>2</sup> Dinse, 5/8" gas, Water quick connect, 14 pin control	270A @ 100%	190A @ 100%
EuroTorch W-250F, 4 meter	058022006	50 mm <sup>2</sup> Dinse, 5/8" gas, Water quick connect, 14 pin control	250A @ 100%	175A @ 100%
EuroTorch W-270, 8 meter	058022007	50 mm <sup>2</sup> Dinse, 5/8" gas, Water quick connect, 14 pin control	270A @ 100%	190A @ 100%
EuroTorch W-250F, 8 meter	058022008	50 mm <sup>2</sup> Dinse, 5/8" gas, Water quick connect, 14 pin control	250A @ 100%	175A @ 100%
EuroTorch W-270R, 4 meter	058022009	50 mm <sup>2</sup> Dinse, 5/8" gas, Water quick connect, 14 pin control	270A @ 100%	190A @ 100%
EuroTorch W-250FR, 4 meter	058022010	50 mm <sup>2</sup> Dinse, 5/8" gas, Water quick connect, 14 pin control	250A @ 100%	175A @ 100%
EuroTorch W-270R, 8 meter	058022011	50 mm <sup>2</sup> Dinse, 5/8" gas, Water quick connect, 14 pin control	270A @ 100%	190A @ 100%
EuroTorch W-250FR, 8 meter	058022012	50 mm <sup>2</sup> Dinse, 5/8" gas, Water quick connect, 14 pin control	250A @ 100%	175A @ 100%
EuroTorch A-125, 4 meter	058022031	50 mm <sup>2</sup> Dinse, 5/8" gas, 14 pin control	125A @ 60%	100A @ 60%
EuroTorch A-150, 4 meter	058022021	50 mm <sup>2</sup> Dinse, 5/8" gas, 14 pin control	150A @ 60%	115A @ 60%
EuroTorch A-200, 4 meter	058022013	50 mm <sup>2</sup> Dinse, 5/8" gas, 14 pin control	200A @ 60%	150A @ 60%
EuroTorch A-200F, 4 meter	058022014	50 mm <sup>2</sup> Dinse, 5/8" gas, 14 pin control	200A @ 60%	150A @ 60%
EuroTorch A-200, 8 meter	058022015	50 mm <sup>2</sup> Dinse, 5/8" gas, 14 pin control	200A @ 60%	150A @ 60%
EuroTorch A-200F, 8 meter	058022016	50 mm <sup>2</sup> Dinse, 5/8" gas, 14 pin control	200A @ 60%	150A @ 60%
EuroTorch A-200R, 4 meter	058022017	50 mm <sup>2</sup> Dinse, 5/8" gas, 14 pin control	200A @ 60%	150A @ 60%
EuroTorch A-200FR, 4 meter	058022018	50 mm <sup>2</sup> Dinse, 5/8" gas, 14 pin control	200A @ 60%	150A @ 60%
EuroTorch A-200R, 8 meter	058022019	50 mm <sup>2</sup> Dinse, 5/8" gas, 14 pin control	200A @ 60%	150A @ 60%
EuroTorch A-200FR, 8 meter	058022020	50 mm <sup>2</sup> Dinse, 5/8" gas, 14 pin control	200A @ 60%	150A @ 60%

R – Remote control   F – Flex neck   W – Water cooled   A – Air cooled

## Genuine Miller® Accessories



**Weldcraft™ Gas Hose Quick Connect QRG**  
Sold individually. Allows for quick connection and removal of torch shielding gas hoses.



**Weldcraft™ Water Hose Quick Connect QRW**  
Sold individually. Allows for quick connection and removal of torch coolant hoses.



**Runner™ Cart**  
included into each Tigrunner  
Designed to accommodate Dynasty 400/800 or Maxstar 400 power sources and a Coolmate™ 3.5 Cooler. Cart features single cylinder rack, foot pedal holder, three cable/torch holders, and two TIG electrode filler holders.



**Coolmate™ 3.5**  
**301789** 120 V, 50/60 Hz, CE with quick connect Industrial 3.5-gallon cooler for use with water-cooled torches rated up to 600 amps. Designed to integrate with the Dynasty 400/800 and Maxstar 400 power sources.



**Low-Conductivity TIG Coolant 043810**  
Must be ordered in quantities of four. One-gallon recyclable plastic bottle. Miller coolants contains a base of ethylene glycol and deionized water to protect against freezing to -38°C or boiling to 108°C.

### Automation Interface Connection Kit 278161 Field

Provides control of power source welding parameters through a 28-pin receptacle. The 28-pin receptacle replaces the standard 14-pin receptacle and requires a PLC controller to operate the power source. Ideal for automated equipment integration.

### Weld Current Sensor 300179 Field

Detects when work clamp is not connected and prevents expensive damage to disconnect devices and input power cord and wiring.



### RCCS-14 Remote Contactor and Current Control 043688

North/south rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Great for applications that require a finer amperage control. Includes 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 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. 27.4 m operating range.



### RFCS-14 HD Foot Control 301589

Heavy-duty foot pedal current and contactor control provides increased stability and durability from larger base and heavier cord. Includes 6 m cord with 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 8 m cord and 14-pin plug.



### RHC-14 Hand Control 242211020

Miniature hand control for remote current and contactor control. Dimensions: 102x102x83 mm. Includes 6 m cord and 14-pin plug.



### RCC-14 Remote Contactor and Current Control 151086

East/west rotary-motion finger tip control attaches to TIG torch using two hook-and-loop fasteners. Great for production or contractors that need quick ramp-up. Includes 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. 91.4 m operating range.

### Extension Cables for 14-Pin Remote Controls

**242208025** 7.6 m  
**242208050** 15.2 m  
**242208080** 24.4 m

# Tungsten

2% Ceriated (EWCe-2)		
Type	Ø mm (in.)	Stock No.
Performs well in DC welding and arc starting at low current settings and offers excellent performance in AC Processes.	1.6 (1/16")	WC116X7
	2.4 (3/32")	WC332X7
	3.2 (1/8")	WC018X7
	4.0 (5/32")	WC532X7



2% Lanthanated (EWLa-2)		
Type	Ø mm (in.)	Stock No.
Provides excellent arc starting, arc stability and re-ignition and less tip erosion in AC or DC welding. Can substitute for 2% Thoriated.	1.6 (1/16")	WL2116X7
	2.4 (3/32")	WL2332X7
	3.2 (1/8")	WL2018X7
	4.0 (5/32")	WL2532X7



Rare Earth (EWG)		
Type	Ø mm (in.)	Stock No.
Combines the best of all alloying elements and provides excellent arc stability in AC or DC welding.	1.6 (1/16")	WG116X7
	2.4 (3/32")	WG332X7
	3.2 (1/8")	WG018X7





## Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
<b>Maxstar® 400</b>	<b>907873002</b>	Auto-Line™ 380–600 V, 50/60 Hz, <b>CE</b> . 8 ft. power cord		
<b>Maxstar® 400 TiGRunner®</b>	<b>907873003</b>	Auto-Line™ 380–600 V, 50/60 Hz, <b>CE</b> . 8 ft. power cord. <i>Requires coolant</i>		
TIG Torches		See page 4		
Tungsten		See page 6		
<b>Accessories</b>				
4 wheel runner large	<b>058035011</b>			
Coolmate™ 3.5	<b>301789</b>	120 V, 50/60 Hz, CE with quick connect. <i>Requires coolant</i>		
Cooler Adapter	<b>301791</b>	Used to connect legacy Coolmate 3.5 to power source		
TIG Coolant (must be ordered in quantities of four)	<b>043810</b>	3.8l plastic bottle. Protects against freezing to -38°C or boiling to 108°C		
Automation Interface Kit	<b>278161</b>	Field installation required. Provides 28-pin automation connections		
Weld Current Sensor	<b>300179</b>	Field installation required. Detects when work clamp is not connected		
Dinse-Style Connector 50 mm (1 male)	<b>042418</b>	Used to connect weld cable to Dinse terminal machine		
Dinse-Style Connector 50 mm (1 male, 1 female)	<b>042419</b>	Used to extend weld cables		
Dinse/Tweco® Adapter	<b>042465</b>	Male Dinse to female Tweco		
Dinse/Cam-Lok Adapter	<b>042466</b>	Male Dinse to female Cam-Lok		
<b>Remote Controls</b>				
Wireless Remote Foot Control	<b>301580</b>	Foot control with wireless 27.4 m operating range		
RFCS-14 HD	<b>301589</b>	Heavy-duty foot control		
RCC-14	<b>151086</b>	East/west fingertip control		
RCCS-14	<b>043688</b>	North/south fingertip control		
RMS-14	<b>187208</b>	Momentary rubber dome switch		
RMLS-14	<b>129337</b>	Momentary/maintained rocker switch		
RHC-14	<b>242211020</b>	Hand control		
Wireless Remote Hand Control	<b>301582</b>	Hand control with wireless 91.4 m operating rang		
Extension Cables		See page 5		

Date:

Total Quoted Price:

Miller® recommends  consumables

Distributed by:

