

Syncrowave® 180 SD

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TIG/Stick Welding
Power Source 

Quick Specs

Light Industrial Applications

Metal Fabrication
Maintenance/Repair Operations
Light Manufacturing
Automotive Repair
Vocational Training
Hobbyist

Processes

TIG (GTAW) Welding
Stick (SMAW) Welding

Input Power Requires 1-Phase Power

Amperage Range DC: 10–180 A, AC: 10–180 A

Maximum Output 180 A

Rated Output 150 A at 26 V, 40% Duty Cycle

Weight 238 lb (108 kg)

The Power of Blue.®

NEW! Squarewave output with AC balance control features adjustable penetration and cleaning action while increasing arc stability on various aluminum alloys, and helps eliminate tungsten spitting and arc rectification.

NEW! Dual digital meters allow for quick and easy viewing of welding and preset values for amperage and voltage. Allows for greater accuracy and repeatability in the welding procedure.

NEW! Built-in cable hanger conveniently folds out of power supply to allow all weld cables to be neatly stored to prevent torch or cable damage.

NEW! Selectable starts allows the operator to choose from three different starting conditions to optimize the application.

NEW! Arc hour/cycle counter records actual welding time and number of arc starts.

Single-range vernier control allows finer TIG output adjustment with remote foot or fingertip amperage control, providing crater fill capabilities required on aluminum and magnesium.

Thermal overload protection circuit senses when machine is too hot, and automatically turns output off, protecting the machine.

Line voltage compensation keeps welding output of the power source constant regardless of fluctuations in the utility power (-10% for 208 volts, and +10% for 230 volts).



Syncrowave 180 SD
Runner

NEW! Standard built-in preflow .02 seconds will purge the weld area prior to welding. Adjustable **postflow** 5–18 seconds will protect the weld and tungsten when welding is completed.

NEW! Fan-On-Demand™ improves power efficiency and reduces noise and maintenance by lessening the amount of airborne contaminants pulled through the machine.

NEW! Adaptive Hot Start™ for Stick arc starts automatically increases the output amperage at the start of a weld should the start require it. Prevents the electrode from sticking and creating an inclusion.

Three-position polarity switch provides a single AC range for aluminum and magnesium, DC electrode negative (-) for TIG, and DC electrode positive (+) for Stick.

Process switch automatically sets machine for TIG or Stick, eliminating guess work.

NEW! 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.



Power source is warranted for 3 years, parts and labor.
Original main power rectified parts are warranted for 5 years.

MADE IN **USA**
APPLETON, WI **USA**



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An Illinois Tool Works Company
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Appleton, WI 54914 USA

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Web Site
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Specifications (Subject to change without notice.)

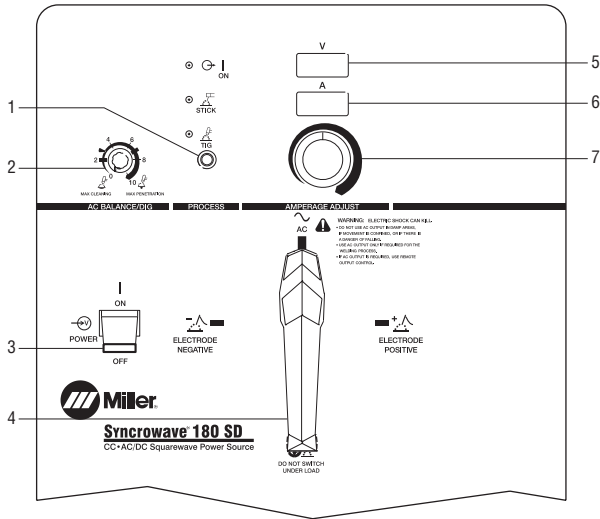


Input Power	Rated Output at 40% Duty Cycle	Welding Amperage Range	Max. Open-Circuit Voltage	Amps Input at Rated Output, 50/60 Hz	KVA	KW	Dimensions	Net Weight
208-230 V	150 A at 26 V	DC: 10–180 A AC: 10–180 A	80	54	12.3	6.0	H: 30 in (762 mm) W: 16 in (406 mm) D: 22-1/8 in (562 mm)	224 lb (102 kg)
460 V				27	12.52	6.0		
575 V				22	12.35	6.0		

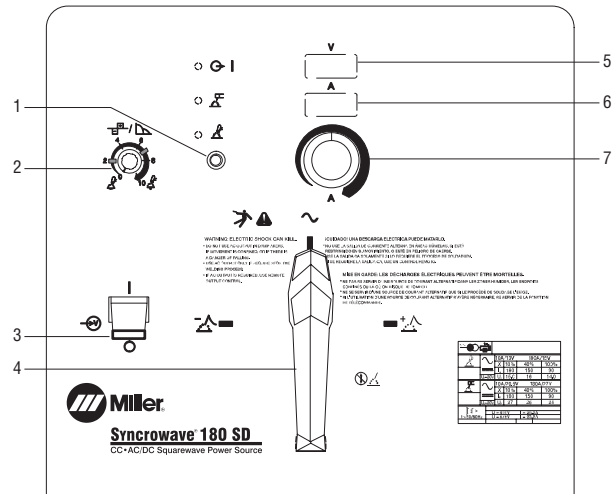
Certification approved.

Control Panel

208–230 V Model



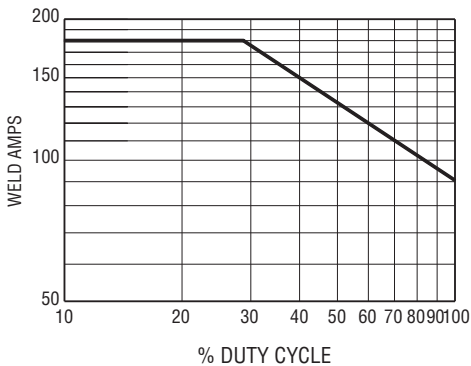
460/575 V Model



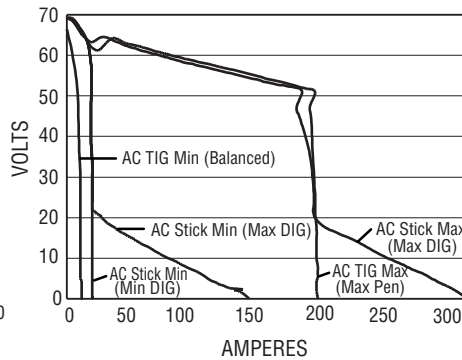
- 1. Weld Process Switch
- 2. AC Balance Control
- 3. Power Switch
- 4. Polarity Switch
- 5. Voltage Meter
- 6. Amperage Meter
- 7. Amperage Control

Performance Data

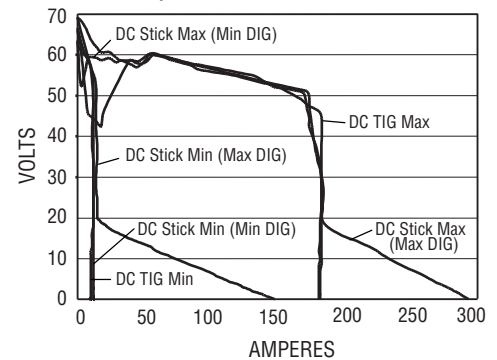
DUTY CYCLE CHART



VOLT/AMP CURVES – AC MODE



VOLT/AMP CURVES – DC MODE



Runner Package

Syncrowave® 180 SD Runner

#907 055 208–230 V, 50/60 Hz
#907 142 460/575 VAC, 50/60 Hz
 Includes Syncrowave 180 SD with primary cord, No. 35 running gear, 150 amp DB1712RDI Diamondback™ torch with quick-connect, 12 ft (3.7 m) work cable with clamp and quick-connect, electrode holder with quick-connect, RFCS-14 remote foot control with 20 ft (6 m) cord, gas regulator and gas hose.

Remote Controls



RFCS-14 HD Foot Control #194 744

For all Miller solid-state power sources after serial

number JK674521. This new design increases stability with a larger base and durability with a heavier cord. 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 ft (6 m) cord and 14-pin plug.



RCCS-14 Remote Contactor and Current Control #043 688

14-pin plug
 For all Miller solid-state power sources after serial number JK674521. North/south rotary-motion fingertip control fastens to TIG torch using two Velcro® straps. Great for applications that require a finer amperage control. Includes 26.5 ft (8 m) control cord.



RCC-14 Remote Contactor and Current Control #151 086

14-pin plug
 For all Miller solid-state power sources after serial number JK674521. Side-to-side rotary-motion fingertip control fastens to TIG torch using two Velcro® straps. Great for production or contractors that need quick ramp-up. Includes 26.5 ft (8 m) control cord.



RMLS-14 Switch #129 337

For all Miller solid-state power sources after serial number JK674521. Momentary- and maintained-contact rocker switch for contactor control. Push forward for maintained contact and backward for momentary contact. Includes 26.5 ft (8 m) cord and 14-pin plug.



RMS-14 On/Off Control #187 208

For all Miller solid-state power sources after serial number JK674521. Momentary-contact switch for contactor control. Rubber-covered pushbutton dome switch ideal for repetitive on-off applications. Includes 26.5 ft (8 m) cord and 14-pin plug.



RHC-14 Hand Control #129 340

Miniature hand control for remote current and contactor control. Dimensions:

4 x 4 x 3-1/4 in (102 x 102 x 82 mm). Includes 20 ft (6 m) cord and 14-pin plug.

Water Coolant Systems

For more information, see the Miller Coolant Systems literature sheet, Index No. AY/7.2.

Coolmate™ 3

#043 007 115 VAC

For use with water-cooled torches rated up to 500 amps. Unique paddle-wheel indicator, external filter and easy-fill spout.

Low-Conductivity Coolant #043 810

Sold in cases of four 1-gallon recyclable plastic bottles. Miller coolants contain a base of ethylene glycol and deionized water to protect against freezing to -37°F (-38°C) or boiling to 227°F (108°C). Also contains a compound that resists algae growth.

Water-Cooled Torch #DB20M25R

The ergonomic torch design ensures proper relationship between the torch and weld joint with maximum comfort and maneuverability. Requires adapter #194 721.

Adapter #194 721

Carts and Running Gear



No. 35 Running Gear #195 021

Includes two 8 in (203 mm) wheels, two 4 in (102 mm) casters and handle. Two compartments have been integrated

for filler materials and will accommodate gas cylinders up to 60 in (152 cm) high measuring 9 in (23 cm) in diameter.

TIG (Gas Tungsten Arc Welding) Handbook #170 555

To order, call the Miller Literature Distribution Center at 1-920-751-2120, or FAX 1-920-751-2121. A comprehensive, text on all aspects of the TIG process.

Diamondback™ TIG Torches

The NEW Diamondback line of ergonomically designed TIG torches from Miller Electric complements the most popular TIG power source line available today. The Diamondback torch line includes both air-cooled and water-cooled models. The air-cooled models range in size from 125 to 200 A. The water-cooled models include 250 and 350 A torches. All models are standard with a rigid head. See Diamondback TIG Torch Selector Guide.

Package Components

Complete Packages!

Just supply argon gas, stick electrodes, filler rod, gloves and helmet, and you're ready to weld!

No. 35 Running Gear

Electrode Holder with Quick-Connect

12 ft (3.7 m) Work Cable with Clamp and Quick-Connect



RFCS-14 Foot Control with 20 ft (6 m) Cord

Syncrowave 180 SD Runner

Power Source with Primary Cord

Gas Regulator and Hose

150 A DB1712RDI TIG Torch with Quick-Connect

Syncrowave 180 SD

Electrode Holder with Quick-Connect

12 ft (3.7 m) Work Cable with Clamp and Quick-Connect



RFCS-14 Foot Control with 20 ft (6 m) Cord

Power Source with Primary Cord

Gas Regulator and Hose

150 A DB1712RDI TIG Torch with Quick-Connect

Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Syncrowave® 180 SD	#907 054	208-230 V, 50/60 Hz		
	#907 141	460/575 VAC, 50/60 Hz		
Syncrowave® 180 SD Runner	#907 055	208-230 V, 50/60 Hz		
	#907 142	460/575 VAC, 50/60 Hz		
Remote Controls				
RFCS-14 HD	#194 744	Heavy-duty foot control		
RCCS-14	#043 688	North/south fingertip control		
RCC-14	#151 086	Side-to-side fingertip control		
RMLS-14	#129 337	Momentary/maintained rocker control		
RMS-14	#187 208	Momentary rubber dome switch		
RHC-14	#129 340	Miniature hand control		
TIG Accessories				
TIG Torches	#DB1712RDI	Air-cooled, 12 ft, 150 A with quick-connect		
	#DB1725RDI	Air-cooled, 25 ft, 150 A (requires #194 722 adapter)		
	#DB912R	Air-cooled, 12 ft, 125 A (requires #194 722 adapter)		
	#DB925R	Air-cooled, 25 ft, 125 A (requires #194 722 adapter)		
	#DB20M12R	Water-cooled, 12 ft, 250 A (requires #194 721 adapter)		
	#DB20M25R	Water-cooled, 25 ft, 250 A (requires #194 721 adapter)		
Diamondback™ TIG Torches Available		See Diamondback TIG Torch Selector Guide		
Torch Adapter	#194 721	DI-1820L, flow-thru, water-cooled torch adapter DP50 required with DB20M25R		
	#194 722	DI-917F, flow-thru, air-cooled torch adapter DP50 required with DB925R		
Consumables, Tungsten		See Diamondback TIG Torch Selector Guide		
Gas Cylinder				
Coolant Systems				
Coolmate™ 3	#043 007	115 VAC coolant system		
Low-Conductivity Coolant	#043 810			
Coolant System Hoses				
Stick Accessories				
Stick Electrodes				
Carts and Racks				
No. 35 Running Gear	#195 021			
Educational Resources				
TIG (Gas Tungsten Arc Welding) Handbook	#170 555			
TIG Calculator	#171 086			

Date:

Total Quoted Price:



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