

Big Blue® 500X Eco Pro

Issued Nov. 2009 • Index No. EDX/5.3

**Diesel Welder/
Generator**



Quick Specs



Industrial Applications

Pipe Welding
Structural
General Fabrication
Maintenance and Repair
Rental Fleets

Processes

Stick (SMAW)
Flux Cored (FCAW)
DC TIG (GTAW)
Air Carbon Arc (CAC-A)
thru 8 mm (5/16 in) carbons

Output Range DC CAC-A 40–500 A
DC Stick 40–450 A
DC TIG 20–450 A
FCAW 14–40 V

Generator Output Rated at 40°C (104°F)
5500 Watts Peak, 4000 Watts Continuous

**Accu-Rated™—Not Inflated
Generator Power**

The Power of Blue.®

BUILT TOUGH

The Big Blue 500X Eco Pro is a rugged, compact, fuel-efficient diesel welder/generator that's Eco-friendly and Eco-nomical.

New!

EPA Tier 4i
Compliant

Superior arc performance

- Factory-preset DIG settings (Stick)
- Hot Start™ (Stick)
- Lift-Arc™ TIG with Auto-Stop™ and Crater-out

An Eco-nomical and Eco-friendly alternative. Designed to be up to 23% more fuel-efficient during typical welding operations than other models. Output of the engine matches the power required, saving operating cost and the environment. The fuel savings really add up when running day-after-day, while producing fewer carbon emissions. Meets tough EPA Tier 4i compliance standards.

Compact package. The Big Blue 500X Eco Pro is up to 78% smaller and 72% lighter than other models—taking less room and reducing transportation costs.



See page 3 for more machine features/benefits.

**MITSUBISHI ENGINE
NORTH AMERICA, INC.**

Mitsubishi S4L2 diesel engine.

Used in industrial applications around the world, the S4L2 is designed to run 10,000 hours before major overhaul.

Simple operation. Operator-friendly control panel is simplified with color-coded terminals to get you connected quickly and correctly.

Meter maintenance displays.

- Hour meter function
- Oil change interval
- High coolant temperature and low oil pressure shutdowns
- Low fuel shutdown—engine shuts down before system runs out of fuel, making restarts easy.

Quiet operation. In weld mode with 71.5 dBA at 7 meters, it's up to 10 dBA quieter than competitive models, improving work site communication and safety.

Thermal overload protection prevents machine damage if the duty cycle is exceeded or airflow is blocked.

High efficiency: 3-phase, rotating-field welding generator requires less fuel and horsepower to operate.

TRUE BLUE®
3YR. WARRANTY

Welder/generator is warranted by Miller for 3 years, parts and labor.
Engine is warranted separately by engine manufacturer.

MADE IN USA
APPLETON, WI



Miller Electric Mfg. Co.

An Illinois Tool Works Company
1635 West Spencer Street
Appleton, WI 54914 USA

Equipment Sales US and Canada

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FAX: 800-637-2315
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International FAX: 920-735-4125

Web Site

www.MillerWelds.com



Specifications (Subject to change without notice.)



Weld Mode	Weld Output Range	Weld Output Rated at 40°C (104°F)	Max. Open-Circuit Voltage	Generator Power Output Rated at 40°C (104°F)	Sound Levels at Rated Output, 7 m (23 ft)	Dimensions	Net Weight (without fuel)*
CC/DC (Stick/TIG)	20–450 A	300 A, 32 VDC, 100% Duty Cycle 450 A, 30 VDC, 40% Duty Cycle	72	5500 Watts Peak 4000 Watts Continuous Single-phase, 110/220 VAC, 36/18 A 50/60 Hz	71.5 dB (96 Lwa) Economy Mode	H: 813 mm (32 in) W: 667 mm (26-1/4 in) D: 1422 mm (56 in)	Net: 494 kg (1090 lb) Ship: 517 kg (1140 lb)
CV/DC (FCAW)	14–40 V	300 A, 28 VDC, 100% Duty Cycle 450 A, 30 VDC, 40% Duty Cycle			81.5 dB (106 Lwa) Power Mode		
CC/DC (CAC-A)	40–500 A	400 A, 36 VDC, 100% Duty Cycle 500 A, 30 VDC, 40% Duty Cycle	72				

Meets NEMA and IEC output ratings.

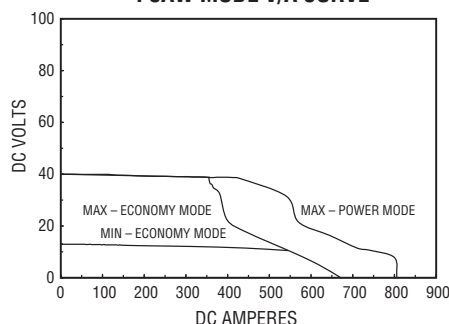
*Additional 43 kg (95 lb) when fuel tank is full.

Engine Specifications (Engines warranted separately by the engine manufacturer.)

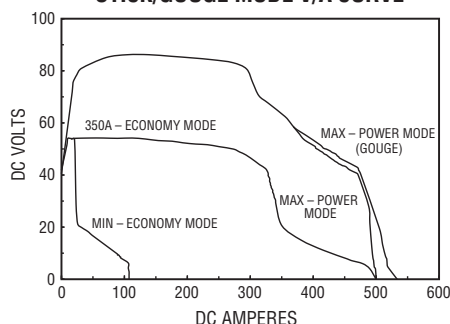
Engine Brand	Features	HP	Type	Engine Speeds	Fuel Capacity	Oil Capacity	Coolant Capacity	Automatic Engine Shutdown
Mitsubishi S4L2	EPA Tier 4i EPA certified, indirect-injected liquid-cooled engine. Right side service access with service intervals of 500 hrs for oil and filters.	35	4-cylinder, industrial liquid-cooled, diesel	Idle: 1500 RPM Weld: 1800 RPM Gouge: 3000 RPM	43.5 L (11.5 gal)	6 L (6.3 qt)	9.5 L (10 qt)	Low Oil Pressure, High Coolant Temperature, Low Fuel Level

Performance Data

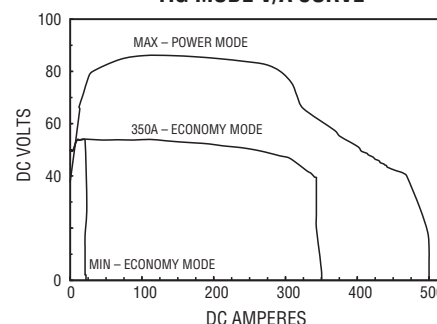
FCAW MODE V/A CURVE



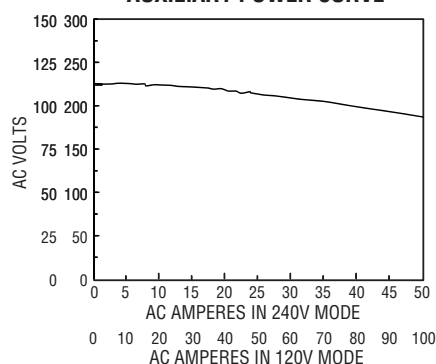
STICK/GOUGE MODE V/A CURVE



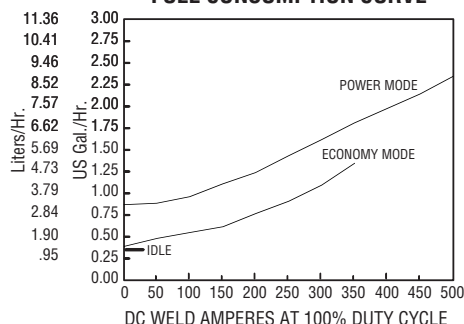
TIG MODE V/A CURVE



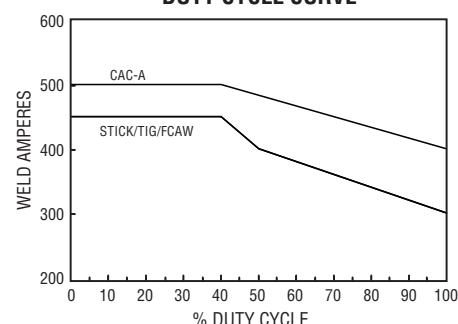
AUXILIARY POWER CURVE



FUEL CONSUMPTION CURVE



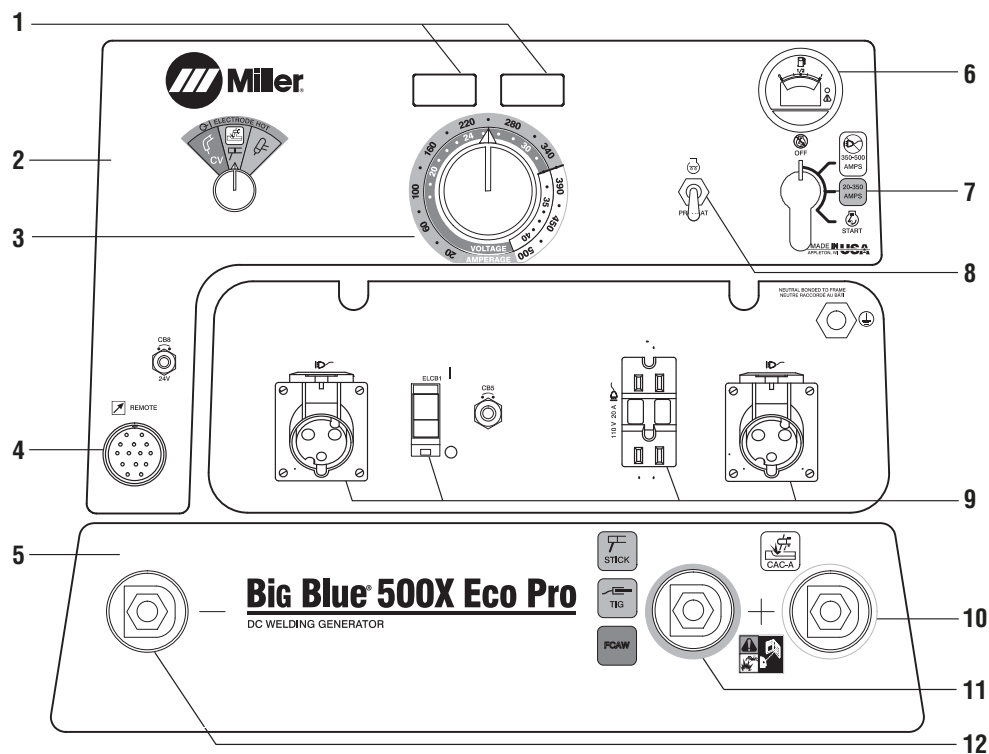
DUTY CYCLE CURVE



SIMULTANEOUS WELDING AND POWER TABLE

WELD AMPERES	TOTAL POWER AVAILABLE IN WATTS	110 V RECEPTACLE AMPERES	220 V RECEPTACLE AMPERES
300/500	N/A	—	—
0/300	4000	20	18

Function Guide



1. Optional self-calibrating digital weld meters with meter maintenance displays (order #195 289).

2. Weld process select switch

3. Amperage/voltage adjust control

4. Standard 14-pin receptacle for simple connection of remote controls and wire feeders. It features **Auto Remote Sense™** which automatically switches from panel to remote amperage/voltage (A/V) control with remote connected. Eliminates confusion of the panel/remote A/V switch.

5. Weatherproof Lexan® nameplate is super durable and resists cracking and fading. Color coded controls for ease of operation.

6. Fuel gauge displays fuel level, engine hours, oil change interval and hi temp/low pressure/low fuel shutdown information.

7. Engine control switch is used to start and stop the engine and select power range. Auto-Idle is standard.

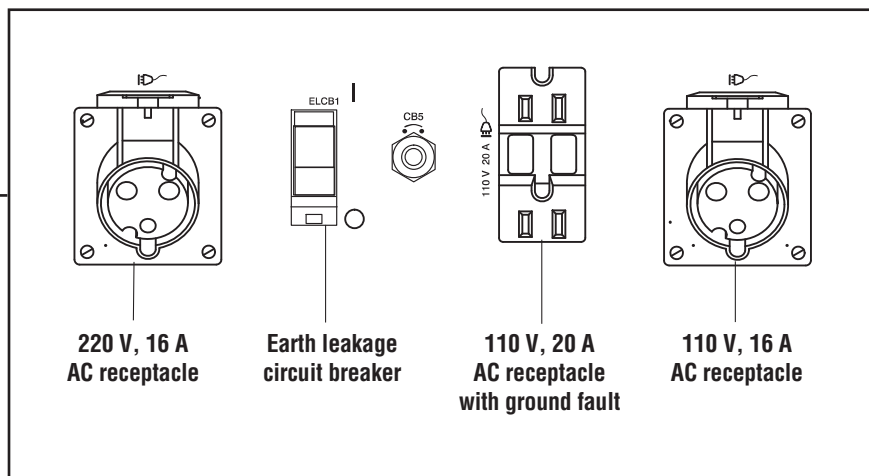
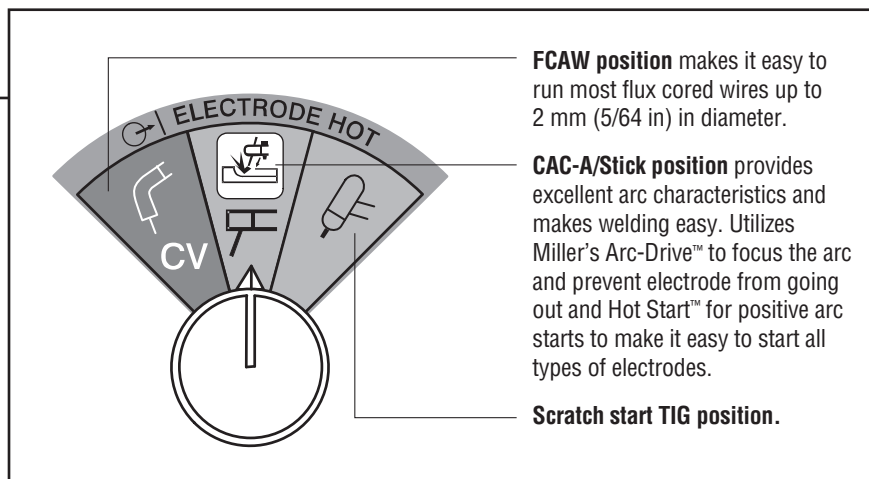
8. Glow plugs assist in cold weather starting.

9. Receptacle and circuit breaker panel

10. CAC-A positive (+) gouging output terminal

11. Stick/TIG/FCAW positive (+) weld output terminal

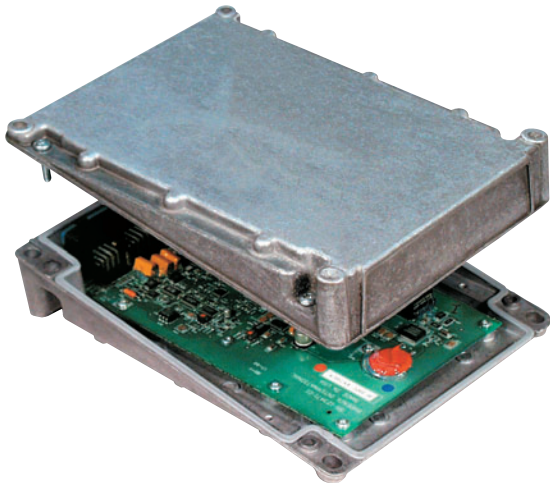
12. Negative (-) weld output terminal.



What Makes Miller Industrial Engine Drives So **[TOUGH]**?

Superior Circuit Board Design

Miller's critical circuit boards are engineered to carry *low power* and *low heat* to reduce thermal stress and minimize expansion and contraction. In contrast, our competitor's boards carry *high power* and *high heat*, making them more vulnerable to failure.



"The Vault" Makes Upgrading to Miller CC/CV Units Worry-Free

Concerns with circuit board reliability have resulted in some operators steering clear of CC/CV welder/generators — even though they offer a superior arc and multiple welding processes. Miller's circuit board reliability isn't a concern since all Big Blue multiprocess industrial engine drives feature the Vault.

Created out of two aluminum halves sealed with silicone, as well as watertight harness connections, the Vault provides a clean circuit board environment, protecting the electronics — and controlling output — in heavy industrial applications. No other competitor protects their electronics with a sealed vault, leaving critical circuit boards exposed to harsh elements that can disrupt the machine's electronics, and therefore, its operation.

"The Big Blue 500X Eco Pro reduced our fuel costs by about six liters a day or more than 120 liters a month, while its smaller size and lighter weight has decreased transportation costs. Plus, its controls are very easy to use, and the stable, smooth arc quality has decreased the need for rework. We're now more productive and cost efficient."

*Mr. Frank Vucic, Structure Superintendent
McConnell Dowell, South East Asia PTE LTD*

"It's much quieter than our previous machine, making it easier to communicate on the job site, reducing operator fatigue and decreasing noise levels in the surrounding communities."

Mr. RGS Nair, Welding foreman of QCON



Rigorous Testing for Tough, Real-World Conditions

To prove our machines go to the limit, Miller industrial engine drives are put to the test in very extreme environmental conditions.

- **Airborne Dust and Sand** — Critical components are exposed to abusive airborne particles in a special testing chamber for weeks, helping make sure they'll operate while facing extreme levels of dirt, dust or sand on the job site.
- **Humidity and Corrosion** — Inside Miller's Houston testing room, critical components are subjected to extended moisture and corrosive salt exposure to ensure they'll run even when exposed to humid climates, corrosive coastal environments, and driving rain.
- **Temperature Extremes** — Miller's industrial engine drives are tested to ensure performance in scorching heat. All Miller engine driven machines are weld rated at 40° C, but actual tests are conducted up to 50° C to assure peak performance.
- **Jobsite/Over-the-Road Abuse** — Miller industrial engine drives are shaken for hours on transportation bed simulators, subjected to severe vibration, and test-dropped and jerked to ensure they'll withstand the stresses that can shut down competitive machines.
- **Continuous Operation** — Miller's industrial engine drives run day and night, in all weather conditions, to assure they'll perform without interruption in the field.



Why Industrial Engine Drive Customers Choose Miller

The ultimate test of Miller's reliability is how it performs in the field. The quote on the left provides a glimpse of how Miller industrial engine drives perform for customers. Read the full stories, and many others demonstrating Miller's superior reliability, at MillerWelds.com.

Genuine Miller Accessories

Cold Weather Starting Aid #300 664 Field 120 V block heater.

Note: All models come standard with preheaters (glow plugs).

Engine Filter Kit

#244 711 Field. Mitsubishi S4L2

Includes all filters required for proper engine maintenance. Oil filter, primary and secondary fuel filter, and primary air filter.

Spark Arrestor (Muffler) Kit #300 585 Field Prevents particles from leaving the muffler that could potentially start a fire.



FA-1D Lockable Flame Arrestor Fuel Cap #043 947 Fuel cap can be padlocked to prevent vandalism. A built-in flame arrestor prevents flames or sparks from entering the fuel tank.

Chalwyn Safety Valve #300 576 Field Shuts off air flow to the engine to prevent over-speed condition. Required on many petroleum jobsites, this valve provides both manual and automatic operation giving you two methods of operation to meet jobsite compliance standards.

Protective Cover #195 301 Field Blue water-resistant cover with Miller logo resists stains and mildew, and protects the finish of your welder.

Stick (SMAW) Welding

Weld Leads

No. 2 Stick Cable Set, 4.6 m (15 ft) #195 196

Consists of 4.6 m (15 ft) No. 2 electrode cable and holder, and 4.6 m (15 ft) work cable and clamp. 200 A, 100% duty cycle.

No. 2 Stick Cable Set, 15 m (50 ft) #195 195

Consists of 15 m (50 ft) No. 2 electrode cable and holder, and 15 m (50 ft) work cable and clamp. 200 A, 100% duty cycle.

2/0 Stick Cable Set, 15 m (50 ft) #173 851

Consists of 15 m (50 ft) 2/0 electrode cable and holder, and 15 m (50 ft) work cable and clamp. 350 A, 100% duty cycle.

2/0 Stick Cable Set, 30.5/15 m (100/50 ft) #043 952

Consists of 30.5 m (100 ft) 2/0 electrode cable and holder, and 15 m (50 ft) work cable and clamp. 300 A, 100% duty cycle.

Plasma Cutting



Spectrum® 375 X-TREME™ #907 339 See Lit. Index No. PC/9.2.

Spectrum® 625 X-TREME™ #907 404 with 3.7 m (12 ft) torch
#907 404-01-1 with 6 m (20 ft) torch
See Lit. Index No. PC/9.6.

The Spectrum 375 X-TREME and 625 X-TREME come complete with protective X-CASE™ (not shown).

MIG (GMAW) or Flux Cored (FCAW)



Millermatic® Passport® Plus #907 401

Portable, all-in-one MIG package features ultimate arc performance, self-contained gas bottle, and flexibility to plug into 115 or 230 V power with Miller exclusive Multi-Voltage Plug. See Lit. Index No. DC/12.53.



SuitCase® X-TREME™ 8VS Wire Feeder #300 656

SuitCase® X-TREME™ 12VS Wire Feeder #300 659

Lightweight, voltage-sensing wire feeders include secondary contactor and gas valve. Requires drive roll kit. See Lit. Index No. M/6.41.



SuitCase® 8RC Wire Feeder #300 660
SuitCase® 12RC Wire Feeder #300 663

Lightweight and flexible enough to run a variety of wires up to .062 in diameter. Comes standard with remote voltage control. Requires drive roll kit. See Lit. Index No. M/6.5.

MIG (GMAW)/Flux Cored (FCAW) Guns

Miller produces a complete line of dependable MIG guns. See Lit. Index Nos. AY/15.0, AY/16.0 and AY/17.0.



Spoolmatic® 30A Spool Gun #130 831

Air-cooled, 200-amp, 1-lb spool gun for aluminum MIG. See Lit. Index No. M/1.73.

WC-24 Control #137 549

Use with Spoolmatic 30A.

XR™ Wire Feeders and Guns

Push-pull system designed to handle difficult-to-feed soft alloy wires such as aluminum. See Lit. Index No. M/1.7, M/1.71, and M/1.73.

TIG (GTAW) Welding



HF-251 Series

#042 388

HF-251D-1, 115 VAC

#042 387

HF-251D-2, 230 VAC

High-frequency arc starter and stabilizer.

See Accessory Lit. Index No. AY/5.0.

Genuine Miller Accessories (continued)

Remote Controls



RHC-14 Hand Control #129 340

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

102 x 102 x 82 mm (4 x 4 x 3-1/4 in).

Includes 6 m (20 ft) cord and 14-pin plug.



RFCS-14 HD Foot Control #194 744

Heavy-duty foot current and contactor control. Includes 6 m (20 ft) cord and 14-pin plug.



RMLS-14 #129 337 14-pin plug
Momentary- and maintained-contact rocker switch for contactor control. Push forward for maintained contact and back for momentary contact. Includes 6 m (20 ft) cord.



RMS-14 On/Off Control #187 208
Momentary-contact switch for contactor control. Rubber-covered pushbutton dome switch ideal for repetitive on-off applications. Includes 8 m (26.5 ft) cord and 14-pin plug.



RCC-14 Remote Contactor and

Current Control #151 086 14-pin plug
Rotary-motion fingertip control fastens to TIG torch using two Velcro® straps. Includes 8.5 m (28 ft) control cord.

Extension Cords for 14-Pin Remote Controls or 24 VAC Wire Feeders

#122 973 7.6 m (25 ft)

#122 974 15.2 m (50 ft)

#122 975 23 m (75 ft)

Trailers and Hitches (Note: Trailers are shipped unassembled.)



4 West Four-Wheel Steerable Off-Road Trailer #042 801

A heavy-duty 1166 kg (2570 lb) capacity trailer designed for use in mines, quarries, and other rough terrain. Has narrow 6.7 m (22 ft) turning radius. Includes 76 mm (3 in) lunette eye, universal hitch and safety chains.

Note: Trailer is shipped unassembled.



HWY-224 Trailer

#043 805 For highway use.

OFR-224 Trailer

#043 802 For off-road use.

A 1202 kg (2650 lb) capacity trailer. Welded steel tubing frame, heavy-duty axle with roller bearing hubs and leaf-spring suspension. Includes jack stand, 50 mm (2 in) ball hitch. *HWY-224 also includes fenders and lights.*

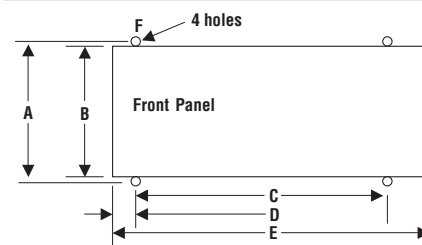
Note: Trailer is shipped unassembled.

Cable Tree #043 826

Provides an area to conveniently wrap weld cables and extension cords.

Lunette Eye 64 mm (2-1/2 in) #043 824

Mounting Specifications



A. 705 mm (27-3/4 in)

B. 667 mm (26-1/4 in)

C. 1321 mm (52 in)

D. 51 mm (2 in)

E. 1422 mm (56 in)

F. 14 mm (9/16 in) dia.

Height: 813 mm (32 in)

Width: 667 mm (26-1/4 in)

Depth: 1422 mm (56 in)

Specifications (Subject to change without notice.)

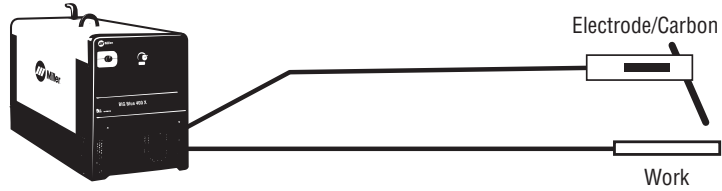
Model	Gross Axle Weight Rating	Gross Vehicle Weight Rating	Net Payload	Height of Bed	Road Clearance	Track (Center to center of tires)	Standard Tires (Standard rating or P-size rating)	Dimensions	Net Weight
4-West	907 kg/axle (2000 lb/axle)	1361 kg (3000 lb)	1166 kg (2570 lb)	540 mm (21-1/4 in)	203 mm (8 in)	1403 mm (55-1/4 in)	B78-13	Length: 2311 mm (91 in)** Width: 1556 mm (61-1/4 in)	195 kg (430 lb)
HWY-224 OFR-224	1588 kg (3500 lb)	1343 kg (2960 lb)	1202 kg (2650 lb)	470 mm (18-1/2 in)	191 mm (7-1/2 in)	1321 mm (52 in)	B78-13	Length: 3112 mm (122-1/2 in) Width: HWY- 1549 mm (61 in)** OFR-1486 mm (58-1/2 in)	161 kg (355 lb)

* Does not include tongue. **Width at outside of fenders.

Typical Installations

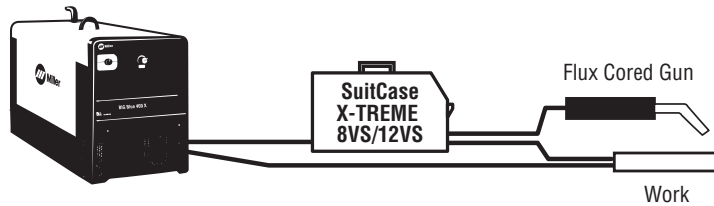


**Stick (SMAW) and Air Carbon
Arc Cutting and Gouging (CAC-A)
Basic Equipment**



Flux-Cored (FCAW) Basic Equipment

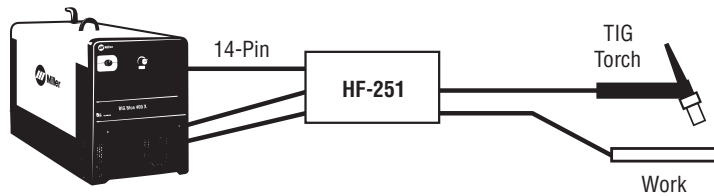
SuitCase® X-TREME™ 8VS #300 656
SuitCase® X-TREME™ 12VS #300 659



TIG (GTAW) Basic Equipment

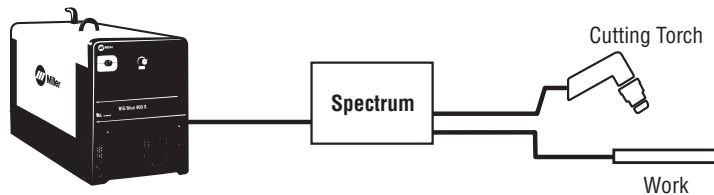
HF-251D-1 #042 388*
HF-251D-2 #042 387*

**TIG power cable adapter required*



Plasma Basic Equipment

Spectrum® 375 X-TREME™ #907 339
Spectrum® 625 X-TREME™
#907 404 with 3.7 m (12 ft) torch
#907 404-01-1 with 6 m (20 ft) torch



Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Big Blue® 500X Eco Pro (CC/CV, Flux Cored)	#907 427	Base machine		
	#907 427-001	With Weld Meters, Spark Arrestor		
Accessories				
Digital Weld Meter Kit	#195 289	Field		
Cold Weather Starting Aid	#300 664	Field, 120 V block heater		
Mitsubishi S4L2 Engine Filter Kit	#244 711	Field, oil, fuel and air filters		
Spark Arrestor Kit	#300 585	Field		
FA-1D Lockable Flame Arrestor Fuel Cap	#043 947	Field		
Chalwyn Safety Valve	#300 576	Field		
Protective Cover	#195 301	Field		
Stick Welding Leads		See page 5		
Plasma Cutting				
Spectrum® 375 X-TREME™	#907 339	Includes X-CASE™. See Lit Index No. PC/9.2		
Spectrum® 625 X-TREME™	#907 404	With 3.7 m (12 ft) torch and X-CASE™. See Lit Index No. PC/9.6		
	#907 404-01-1	With 6 m (20 ft) torch and X-CASE™. See Lit Index No. PC/9.6		
MIG/Flux Cored Welding				
Millermatic® Passport® Plus	#907 401	Includes gas bottle and MVP. See Lit. Index No. DC/12.53		
SuitCase® X-TREME™ 8VS	#300 656	See Lit Index No. M/6.41		
SuitCase® X-TREME™ 12VS	#300 659	See Lit Index No. M/6.41		
SuitCase® 8RC	#300 660	See Lit Index No. M/6.5		
SuitCase® 12RC	#300 663	See Lit Index No. M/6.5		
MIG (GMAW) and Flux Cored (FCAW) Guns		See Lit Index Nos. AY/15.0, AY/16.0 and AY/17.0		
Spoolmatic® 30A Spool Gun	#130 831	Requires WC-24 Control. See Lit. Index No. M/1.73		
WC-24 Control	#137 549	See Lit. Index No. M/1.5		
XR™ Wire Feeder Control and Guns		See Lit. Index No. M/1.7, M/1.71, and M/1.73		
TIG Welding				
HF-251 Series	#042 388	115 VAC. See Lit. Index No. AY/5.0		
	#042 387	230 VAC. See Lit. Index No. AY/5.0		
Remote Control and Switches				
RHC-14 Hand Control	#129 340			
RFCS-14 HD Foot Control	#194 744			
RMLS-14	#129 337			
RMS-14 On/Off Control	#187 208			
RCC-14 Remote Contactor/Current Control	#151 086			
Extension Cords		See page 6		
Trailers and Hitches				
4-West Four-Wheel Steerable Trailer	#042 801	Trailer with lunette eye, universal hitch and safety chains. For off-road use		
HWY-224 Trailer	#043 805	Trailer with lights, fenders and 50 mm (2 in) ball hitch. For highway use		
OFR-224 Trailer	#043 802	Trailer with 50 mm (2 in) ball hitch. For off-road use		
Cable Tree	#043 826	Trailer-mounted cable holder for HWY-224 or OFR-224		
Lunette Eye, 2-1/2 in	#043 824	For HWY-224 or OFR-224		

Date:

Total Quoted Price:



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