Big Blue 500 Pro



Quick **Specs**

Heavy Industrial Applications

Heavy construction Structural steel Mining maintenance Maintenance and repair rigs Process piping

Processes

Stick (SMAW) MIG (GMAW) Flux-cored (FCAW) RMD®* Pulsed MIG (GMAW-P)* DC TIG (GTAW) Air carbon arc (CAC-A) 3/8-inch (9.5 mm) carbons Output Range DC stick/TIG 20-500 A DC MIG/FCAW 14-50 V

Generator Output Rated at 104°F (40°C)

3-phase 27,000 watts peak, 20,000 watts continuous 1-phase 15,000 watts peak, 12,000 watts continuous Note: See page 4 for specific international specs.

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

*Available only on ArcReach models.





Heavy-duty low-speed T4F and T4i industrial diesel engines.

The cleanest, greenest diesel power available. Kubota T4F models utilize diesel oxidation catalyst (DOC) technology to keep the air clean with NO exhaust aftertreatment maintenance.



Electronic engine display (Kubota USA models)

simultaneously displays fuel level. engine hours, coolant temperature. oil pressure, battery volts and engine rpm. Also tracks oil change intervals and displays engine diagnostics for quick and easy servicing.



Remote control of the power source without a cord. See pages 2 and 3.



Optimized arc control for stick welding applications. See page 2.









Built to last in harsh industrial environments



New standard for productivity and weld quality



International models available



Easy to add capabilities



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



Miller Electric Mfg. LLC

An ITW Welding Company 1635 West Spencer Street P.O. Box 1079 Appleton, WI 54912-1079 USA

Equipment Sales US and Canada

Phone: 866-931-9730 FAX: 800-637-2315

International Phone: 920-735-4554 International FAX: 920-735-4125

MillerWelds.com







Big Blue® 500 Pro Features and Controls

Digital meters with SunVision™ technology enable welding parameters to be viewed with greater clarity than analog meters — at virtually any angle. Meters can be seen clearly even in direct sunlight.

Standard 14-pin receptacle with Auto-Remote Sense™ for simple connection of remote controls and wire feeders.

Industrial USB port. Quickly upload the latest software and download machine log files to retrieve



in-depth information such as diagnostics and machine statistics.

Low OCV stick (VRD), when enabled, reduces the open-circuit voltage to 30 volts when the welding power source is not in use, increasing operator safety without compromising arc starts.

Standard features include adjustable Hot Start,™ output contactor control, automatic idle, thermal overload protection and 120-volt block heater.

Dynamic DIG™ technology

automatically adjusts the amount of current required to clear a short based on user settings. Delivers a smoother, more consistent arc that can be tailored to match the application, material, fit-up and welder technique.



USA model shown

Note: See page 4 for specific international specs.



Arc control is beneficial when welding with stick and solid wires for easier fine-tuning of tough-to-weld materials and out-of-position applications.



20,000 watts of pure generator power. Plug in an extra Miller® inverter-based power source for a second welding arc!

Polarity reversing switch (Deluxe models only) Quickly change welding polarity, without having to change over cables.



HD powder coat with zinc-rich primer protects sheet metal from rust and corrosion.

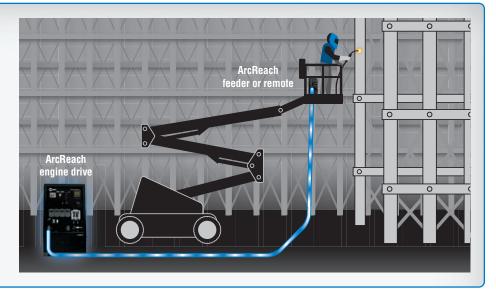
Quiet operation. Improves worksite communication.

ArcReach® Remote Control Technology



Remote control of the power source without a control cord.

An ArcReach system allows you to change weld settings from your ArcReach feeder or remote, saving a trip to the power supply. ArcReach technology uses the existing weld cable to communicate welding control information between the feeder or remote and the power source. This technology eliminates the need for control cords, and their associated problems and costs.





Big Blue 500 Pro ArcReach Additional Features

ArcReach provides remote amperage and voltage control at the weld joint without needing a control cord.



Increased productivity

More arc-on time and reduced exposure to workplace hazards for operators can be realized using ArcReach because less time is spent going back to the welding power supply to set process and arc amperage or voltage.

Auto-Process Select.™ Depending on connected accessory, the system automatically changes to stick or MIG/FCAW (with gas) if electrode positive polarity is detected or TIG or FCAW (no gas) if electrode negative polarity is detected, when ArcReach communication is established between the accessory and the Big Blue 500 Pro — reducing the need to access the power supply.

Automatic return to panel settings. System automatically returns to Big Blue 500 Pro setting when ArcReach communication is terminated. For example, if the Big Blue is set to gouging at 350 amps and an ArcReach feeder is connected, the Big Blue will go to a MIG/FCAW process. If the feeder is disconnected, the Big Blue will go back to its previous setting (gouging at 350 amps).

Less operator fatigue by not needing to move or reposition heavy secondary weld leads bundled with control cords on the jobsite. Control cables are not used.



Improved weld quality

Operator can precisely set arc amperage or voltage at the weld joint and monitor the actual arc voltage and current delivered to the weld using the digital meters on the accessory. This removes guesswork when it comes to adhering to weld procedures.

Remote override of Big Blue 500 Pro. When an ArcReach accessory is connected to a Big Blue the accessory has full control and the Big Blue controls are disabled. While under ArcReach control, process and voltage/amperage adjustments are locked out, preventing accidental changes by personnel other than the welding operator.



Reduced maintenance

Save time by no longer needing to troubleshoot welding system problems that result from damaged control cords.

Eliminate costly control cord repairs because control cords are not used.



Improved flexibilty

Cross platform compatible. The same ArcReach accessories that work on engine-driven equipment can also be used on select ArcReach-equipped XMT® and Dimension™ power sources.

Reverse compatible. ArcReach-equipped power sources work with non-ArcReach accessories; however, the complete ArcReach benefit is only realized with the ArcReach system.

Big Blue 500 Pro ArcReach System and Accessories

Big Blue 500 Pro ArcReach system (see page 8 for engine drive models/stock numbers), ArcReach SuitCase® 12 feeder with Bernard™ S-Gun™ (951730), ArcReach Stick/TIG Remote (301325), and ArcReach Smart Feeder with Bernard PipeWorx 300-15 MIG gun (951733).

ArcReach SuitCase 8 and 12 feeders for MIG or flux-cored welding

- · Remote voltage control
- · Polarity indication
- Auto-Process Select[™]





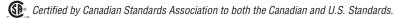
Specifications (Subject to change without notice.)





Weld Mode/ Process	Weld Output Range	Weld Output Rated at 104°F (40°C)	Max. Open- Circuit Voltage	Generator Power Output Rated at 104°F (40°C)***	Dimensions	Weight
CC/DC (Stick/TIG)	20-500 A	Kubota USA models 400 A at 36 V, 100% duty cycle* 450 A at 38 V, 100% duty cycle* 500 A at 40 V, 100% duty cycle* Deutz International model 400 A at 36 V, 100% duty cycle*	92 VDC 30 VDC**	Kubota USA models 3-phase: 27,000 watts peak, 20,000 watts continuous 1-phase: 15,000 watts peak, 12,000 watts continuous Deutz International model	Kubota USA models H: 46 in. (1,168 mm) W: 28.5 in. (724 mm) D: 69.5 in. (1,765 mm) Deutz International model	Net: 1,750 lb. (793.8 kg) Deutz International model Net: 1,530 lb.
CV/DC (MIG/FCAW)	14-50 V	450 A at 33 V, 60% duty cycle 500 A at 30 V, 40% duty cycle		3-phase: 21,000 watts peak, 15,000 watts continuous 1-phase: 15,000 watts peak, 12,000 watts continuous	H: 42 in. (1,067 mm) W: 28.5 in. (724 mm) D: 65.125 in. (1,654 mm) Add 7.5 in. (191 mm) to heights for exhaust pipe	(694 kg) Add 51 lb. (23 kg) for ship weight Add 165 lb. (75 kg) when fuel tank is full

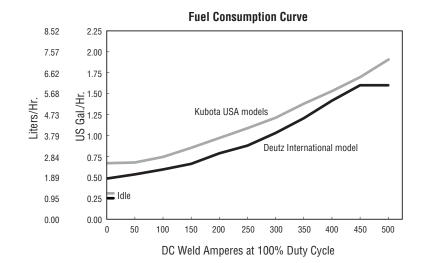
^{*}Meets NEMA and IEC ratings. **Sense voltage for stick and Lift-Arc™ TIG. ***Will operate either 60 hertz or 50/60 hertz power tools, lights, etc.



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

Engine Brand Feat		Features	HP Type		Engine Speeds	Sound Levels at 23 ft. (7 m)	Capacities	Automatic Engine Shutdown		
NSA	Kubota V2403	EPA Tier 4 Final compliant, includes 120 V block heater and automatic glow plugs	48.9	Turbo-charged four-cylinder liquid-cooled industrial diesel	Idle: 1,350 rpm Weld: 1,800 rpm	Idle: 65.9 dB (90.7 Lwa) Weld: 74.3 dB (99.1 Lwa)	Fuel: 25 gal. (95 L) Oil: 10 qt. (9.5 L) Coolant: 9 qt. (8.5 L)	Low oil pressure, high coolant temperature, low fuel level		
Int'I	Deutz D 2011 L03 i	EPA Tier 4i compliant, includes 120 V block heater and glow plugs	32.0	Three-cylinder oil-cooled industrial diesel	Idle: 1,350 rpm Weld: 1,800 rpm	Idle: 63.4 dB (88.2 Lwa) Weld: 72.2 dB (97 Lwa)	Fuel: 25 gal. (95 L) Oil: 6 qt. (5.7 L)	Low oil pressure, high coolant temperature, low fuel level		

Performance Data



Simultaneous Welding and Power

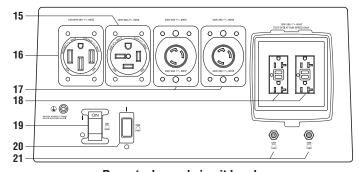
	Total Aux. Power Available (Watts) Kubota USA Models		
Weld Amperes	1-Ph*	3-Ph	
No Weld Output	16,000	20,000	
200 A at 28 V	16,000	20,000	
300 A at 32 V	13,000	18,000	
400 A at 36 V	9,000	12,500	
450 A at 38 V	6,500	7,500	
500 A at 40 V	4,500	5,750	

^{*}Single-phase listings include 4,000 watts from the exciter stator.



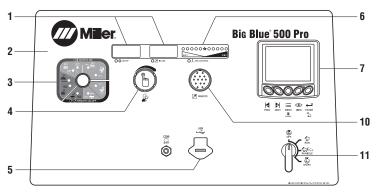
Function Guide

- Self-calibrating digital weld meters with fault code indication display preset or actual weld parameters.
- Weatherproof Lexan® nameplate is super durable and resists cracking and fading.
- 3. Weld process selection switch
- Pushbutton main control knob used for adjusting amperage/voltage, adjusting arc control, and accessing the service menu.
- USB port allows software updates from a USB drive. A summary file of recoded data from the unit will be saved to a USB drive that is inserted.
- 6. Adjustable arc control adjusts DIG when process control is in stick modes and adjusts inductance when process control is in FCAW or MIG modes. The amount of DIG determines how much amperage (heat) varies with stick arc length. Inductance determines the "wetness" of the weld puddle.
- 7. Electronic engine display can display fuel level, engine hours, coolant temperature, oil pressure, battery volts, and engine rpm simultaneously or one at a time. Also tracks oil change intervals and displays engine diagnostics for service technicians.
- 8. Maintenance interval reminder. Yellow and red indicator lights let an operator know when the machine is approaching and finally in need of routine maintenance.
- **9. Fuel indicator gauge.** Low fuel shutdown shuts engine off prior to running out of fuel to prevent loss of fuel in the system, and make restarts easy.
- 10. Standard 14-pin receptacle for simple connection of remote controls and wire feeders. Includes Auto Remote Sense™ which automatically switches from panel to remote amperage/voltage (A/V) control with remote connected. Eliminates confusion of a panel/remote switch.
- **11. Engine control switch** is used to start engine and then select between auto idle and high speed lock.
- 12. Glow plugs assist in cold weather starting.
- Optional polarity reversing switch changes DC polarity without the use of tools.
- 14. Weld output terminals

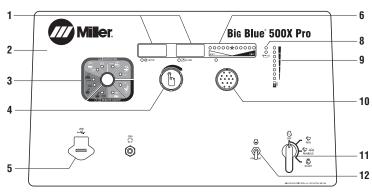


Receptacles and circuit breakers – Kubota USA models

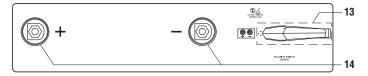
- **15. 50 A, 240 V, three-phase receptacle** (For matching plug, order **254140**.)
- **16. 50 A, 120/240 V receptacle** (For matching plug, order **119172**.)
- 17. 20 A, 240 V receptacles
- 18. 20 A, 120 V receptacles with ground fault
- 19. 50 A circuit breaker
- 20. 20 A, 240 V circuit breaker
- 21. 20 A. 120 V circuit breakers



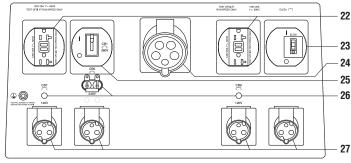
Control panel - Kubota USA models



Control panel – Deutz International model



Terminal panel - all models



Receptacles and circuit breakers – Deutz International model

- 22. 20 A, 120 V receptacles with ground fault
- 23. 240 V residual current circuit breaker with overcurrent protection (RCBO)
- 24. 32 A, 400 V three-phase receptacle (For matching plug, order 255421.)
- 25. 30 A, three-phase circuit breaker
- 26. 120 and 240 V circuit breakers
- 27. 16 A, 120/240 V receptacles

(For matching plugs, order **255419** for 120 V and **255416** for 240 V.)



Genuine Miller® Accessories

Polarity Reversing Switch Kit 301112 Field *Standard on Deluxe models.* Changes DC polarity without the use of tools.



Female Receptacle



Full KVA Adapter Cord 300517 Field NEMA 14-50P to NEMA 6-50R. Adapts engine drive 120/240 V plug to common Millermatic® and Spectrum® 240 V plug.



Full KVA Plug Kit Field 119172 1-phase, 120/240 V, 50 A plug (NEMA 14-50P) 254140 3-phase, 240 V, 50 A plug (NEMA 15-50P)



International Plugs Field 255416 1-phase, 240 V, 16 A plug 255421 3-phase, 400 V, 32 A plug

Engine Filter Kits 273293 Field. For Kubota 246988 Field. For Deutz

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



Spark Arrestor Kit 195012 Field Prevents particles from leaving the muffler that could

potentially start a fire. Mandatory when operating on California grasslands, brush, or forest-covered land, and in all national forests. For other areas, check your state and local laws. Meets U.S. Forest Service standard 5100-1B.



FA-1D Lockable Flame Arrestor Fuel Cap 043947 Field Fuel cap can be padlocked to prevent vandalism. A built-in flame arrestor prevents flames or sparks from entering the fuel tank.



Vandalism Lockout Kit 399802 Field

Standard on Deluxe models. Lockable hinged steel panels cover and protect name plate gauges and ignition switch (padlock included).



Cable Holder 043946 Field

Saddle-bag-style cable holder. Convenient wrap-around storage of coiled cable for transportation. Stores 100 feet of 2/0 cable on each side.

Note: For best results do not weld when cable is coiled! Protective cover cannot be used with cable holder.



Big Blue 500–800 Pro Cold Weather Kit 301482 Adjustable, steel-hinged cover for operating in extremely cold conditions.



Protective Cover 301495 Kubota model 194683 Deutz model Blue water-resistant canvas cover resists stains and mildew, and protects the finish of your welder.

Note: Protective cover cannot be used with cable holder.

MIG (GMAW) or Flux-cored (FCAW)



SuitCase® 12RC
Wire Feeder 951580
Lightweight and flexible enough to run wires up to .062-inch diameter.
Includes remote voltage control, drive roll kit and Bernard™ BTB Gun 300 A.
See literature M/6.5.



ArcReach® SuitCase® 8
951726 With Bernard™ BTB Gun 300 A
951727 With Bernard™ S-Gun™
951728 With Bernard™ Dura-Flux™ gun
ArcReach® SuitCase® 12

951729 With Bernard™ BTB Gun 300 A 951730 With Bernard™ S-Gun™ 951731 With Bernard™ Dura-Flux™ gun

Portable feeder designed to run off of arc voltage. When paired with an ArcReach power source, provides remote control of the power source without a control cord — saving time and money. See literature M/6.55.



ArcReach® Smart Feeder 951733

For use with ArcReach models only (see pages 2 and 3 for more information). Includes drive rolls and Bernard™ PipeWorx 300-15 MIG gun. For MIG, FCAW, and advanced RMD® and pulse processes. See literature M/6.55.

MIG (GMAW)/Flux-cored (FCAW) Guns See Bernard™ literature SP-BTB for BTB air-cooled MIG guns, and SP-DF for Dura-Flux™ self-shielded flux-cored guns.



Spoolmatic® 30A Spool Gun 130831 Air-cooled, 200-amp, one-pound spool gun for aluminum and

stainless MIG. See literature M/1.73. Requires WC-24 Control (137549).

XR™ Wire Feeders and Guns

Push-pull system designed to handle difficult-to-feed soft alloy wires such as aluminum. See literature M/1.7 through M/1.74.

Stick (SMAW) Welding

Weld Leads

2/0 Stick Cable Set, 50 ft. (15 m) 173851 Consists of 50-foot (15 m) 2/0 electrode cable with holder, and 50-foot (15 m) work cable with clamp. 350 A, 100% duty cycle.

2/0 Stick Cable Set, 100/50 ft. (30.5/15 m) 043952

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

AC TIG (GTAW) Welding



Dynasty® 210 Series For portable AC/DC TIG. See literature AD/4.81.



Genuine Miller® Accessories (Continued)

Plasma Cutting



Spectrum 375 X-TREME and 625 X-TREME shown.

Spectrum® 375 X-TREME™ 907529

See literature PC/9.2.

Spectrum® 625 X-TREME™ 907579

See literature PC/9.6.

Spectrum® 875 907583

See literature PC/9.8.

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

Stick/TIG Remote Controls



ArcReach® Stick/TIG Remote 301325 When paired with an ArcReach power source, provides remote control of the power source without a cord -

saving time and money. See literature AY/14.5.

Wireless Remote Hand Control 300430

For remote current, voltage and contactor control. Receiver plugs directly into the 14-pin receptacle of Miller

machine. 300-foot (91.4 m) operating range. Wireless antenna kit 300749 recommended.

Wireless Antenna Kit 300749

Optional when improved reception is desired.



RHC-14 Hand Control 242211020

Miniature hand control for remote current, voltage and contactor control. Dimensions: 4 x 4 x 3.25 inches (102 x 102 x 82 mm). Includes 20-foot (6 m) cord and 14-pin plug.

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

242208025 25 ft. (7.6 m)

242208050 50 ft. (15.2 m) 242208080 80 ft. (24.4 m)

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



4 West Four-Wheel Steerable Off-Road Trailer 042801

A heavy-duty 2,550-pound (1,157 kg) capacity trailer designed for use in mines, guarries, and other rough terrain. Has narrow 22-foot (6.7 m) turning radius. Includes 3-inch (76 mm) lunette eye, universal hitch and safety chains.



HWY-225 Trailer 301338

A 2,700-pound (1,225 kg) capacity highway trailer with welded steel tubing frame, heavy-duty axle with roller bearing hubs and leaf-spring suspension. Includes jack stand, fenders, lights, and dual hitch with 2-inch (50 mm) ball hitch and 3-inch (76 mm) lunette eye.

Cable Tree 043826

For use with HWY-225. Provides an area to conveniently wrap weld cables and extension cords.



Dual Hitch 301441

For use with HWY-225. 2-inch (50 mm) ball hitch and 3-inch (76 mm) lunette eye in one reversible assembly.

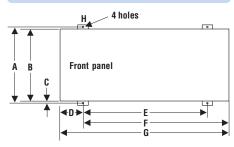


2-In-1 Document/ Fire Extinguisher Holder 301236

For use with HWY-225. Stores documents and holds a 5-pound fire extinguisher.

Note: Holder shown mounted on trailer. Fire extinguisher not included.

Mounting Specifications



Kubota model:

A. 29.812 in. (757 mm)

B. 27.5 in. (699 mm)

C. 1 in. (25 mm)

D. 11.625 in. (295 mm)*

E. 46.375 in. (1,178 mm)*

F. 58 in. (1,473 mm)*

G. 69.5 in. (1,765 mm)

H. .562 in. (14 mm) dia.

Deutz model:

A. 29.812 in. (757 mm)

B. 27.5 in. (699 mm) **C.** 1 in. (25 mm)

D. 9.625 in. (244 mm)*

E. 46.5 in. (1,181 mm)*

F. 56 in. (1,422 mm)* **G.** 65.125 in. (1,654 mm)

H. .562 in. (14 mm) dia.

Heiaht:

Kubota model: 46 in. (1,168 mm) to top of cover **Deutz model:** 42 in. (1,067 mm) to top of cover Add 7.5 in. (191 mm) to heights for exhaust pipe (Exhaust measurement subject to change.)

Width (all models):

28.5 in. (724 mm) (mounting brackets turned in) 30.75 in. (781 mm) (mounting brackets turned out)

*With mounting brackets in center position. Dimensions vary with location of mounting brackets.

Trailer 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	2,000 lb./axle (907 kg/axle)	3,000 lb. (1,361 kg)	2,550 lb. (1,157 kg)	21.25 in. (540 mm)	8 in. (203 mm)	55.25 in. (1,403 mm)	B78-13	Length: 91 in. (2,311 mm)* Width: 61.25 in. (1,556 mm)	420 lb. (191 kg)
HWY-225	3,500 lb. (1,588 kg)	2,999 lb. (1,360 kg)	2,700 lb. (1,225 kg)	19 in. (483 mm)	7.5 in. (191 mm)	50 in. (1,270 mm)	ST175/80R-13 Load Range D	Length: 105.5 in. (2,680 mm) Width: 56.5 in. (1,435 mm)**	280 lb. (127 kg)

^{*}Does not include tongue. **Width at outside of fenders.



Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Big Blue[®] 500 Pro (USA) EPA Tier 4 Final compliant engine	907736 907736001	Kubota. USA base model with 240-volt 3-phase power Kubota. USA deluxe model with ArcReach®, polarity reversing switch and vandalism lockout kit		
Big Blue® 500X Pro (Int'I) EPA Tier 4i compliant engine	907788	Deutz. International model with 400-volt 3-phase power and ArcReach®		
Field Accessories				
Polarity Reversing Switch Kit	301112	Changes DC polarity without the use of tools		
Full KVA Adapter Cord	300517			
Full KVA Plug Kits		See page 6		
International Plugs		See page 6		
Engine Filter Kits		See page 6		
Spark Arrestor Kit	195012			
FA-1D Lockable Flame Arrestor Fuel Cap	043947	Padlock NOT included		
Vandalism Lockout Kit	399802	Lockable front control panel		
Cable Holder	043946	Stores up to 200 feet of 2/0 cable		
Big Blue 500–800 Pro Cold Weather Kit	301482	For use in extreme cold		
Protective Cover		See page 6. Canvas cover — will not fit over machine with cable holder attached		
MIG/Flux-cored Welding				
SuitCase® 12RC	951580	With Bernard™ BTB Gun 300 A. See literature M/6.5		
ArcReach® SuitCase® 8	951726 951727 951728	With Bernard [™] BTB Gun 300 A. See literature M/6.55 With Bernard [™] S-Gun [™] With Bernard [™] Dura-Flux [™] gun		
ArcReach® SuitCase® 12	951729 951730 951731	With Bernard™ BTB Gun 300 A. See literature M/6.55 With Bernard™ S-Gun™ With Bernard™ Dura-Flux™ gun		
ArcReach® Smart Feeder	951733	MIG/FCAW/RMD®/pulse feeder with Bernard™ PipeWorx 300-15 MIG gun. Tweco®-style connectors. See literature M/6.55		
MIG (GMAW) and Flux-cored (FCAW) Guns		See Bernard™ literature SP-BTB and SP-DF		
Spoolmatic® 30A Spool Gun	130831	Requires WC-24 Control. See literature M/1.73		
WC-24 Control	137549	See literature M/1.73		
XR™ Wire Feeder Control and Guns		See literature M/1.7 through M/1.74		
TIG Welding		See page 6		
Plasma Cutting		See page 7		
Stick/TIG Remote Controls				
ArcReach® Stick/TIG Remote	301325	For use with ArcReach models only		
Wireless Remote Hand Control	300430	-		
Wireless Antenna Kit	300749			
RHC-14 Hand Control	242211020			1
Extension Cables		See page 7		
Trailers and Hitches				
4 West Four-Wheel Steerable Trailer	042801	Trailer with lunette eye, universal hitch and safety chains. For off-road use		
HWY-225 Trailer	301338	Trailer with lights, fenders and dual hitch. For highway use		
Cable Tree	043826	Trailer-mounted cable holder for HWY-225		
Dual Hitch	301441	Combination 2-inch (50 mm) ball hitch and 3-inch (76 mm) lunette eye in one reversible assembly for HWY-225		
2-In-1 Document/Fire Extinguisher Holder	301236	Stores documents and holds a 5-pound fire extinguisher for HWY-225		

Date: Total Quoted Price:

Distributed by:

