Big Blue 600 Series



Quick **Specs**

Heavy Industrial Applications

Maintenance and repair rigs Heavy construction Mining maintenance Railroad maintenance Pipe welding

Processes Stick (SMAW)

MIG (GMAW)* Flux-cored (FCAW)* RMD®** Pulsed MIG (GMAW-P)** DC TIG (GTAW) Submerged arc (SAW) Air carbon arc (CAC-A) 3/8-inch (9.5 mm) carbons **Output Range** DC stick/TIG 20-600 A DC MIG/FCAW 15-50 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

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

*With wire feeder.

**ArcReach models only with ArcReach Smart Feeder.

KUPOTO DEUTZ



Heavy-duty low-speed T4F industrial diesel engines.

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





Remote control of the power source without a cord. See page 3.



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



Big Blue 600 Pro

Tackle tough jobs that require high-output for welding, gouging, and auxiliary power.

Big Blue 600 Air Pak™

All-in-one welder/generator eliminates the need for an auxiliary air compressor. The industrial Ingersoll Rand screw-type air compressor is ideal for gouging and running pneumatic tools.



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

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Big Blue® 600 Series Features

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.

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.

Optional vandalism lockout (standard on Deluxe model).

Lockable hinged steel panels cover and protect name plate, gauges and ignition switch (padlock included).



Optional polarity reversing switch (standard on Deluxe model). Quickly change welding polarity without having to change over cables.



Ingersoll Rand ultra-reliable industrial rotary screw compressor (Air Pak models only). 30,000-hour life expectancy. Independent on/off control for applications not requiring compressed air — allows greater fuel savings and longer compressor service intervals.



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.



Big Blue 600 Pro Deluxe model shown



Electronic engine display simultaneously displays fuel level, engine hours, coolant temperature, oil pressure, battery volts, engine rpm, and air pressure. It also tracks oil change intervals, compressor hours, and displays engine diagnostics for quick and easy servicing.

Industrial USB port.

Quickly upload the latest software and download machine log files to retrieve in-depth information such



as diagnostics and machine statistics.



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



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

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

Welder Truck Specific Models

The Big Blue 600 Series is available in welder truck specific models, which have the critical controls located within easy reach of a ground-based operator when the machine is mounted on the bed of a large-body truck. These versions also include standard hardware upgrades including ArcReach® remote control technology, air cleaner restriction indicators, FA-1D lockable flame arrestor fuel cap **043947** and spark arrestor **195012**. The rearmounted desiccant air dryer system **195117001** is available as a factory option.



The lower control panel has the following controls: electronic engine display, air compressor on/off switch and engine control switch.

Pair any Miller® ArcReach accessory for complete remote control of welding processes and parameters right at the weld joint.

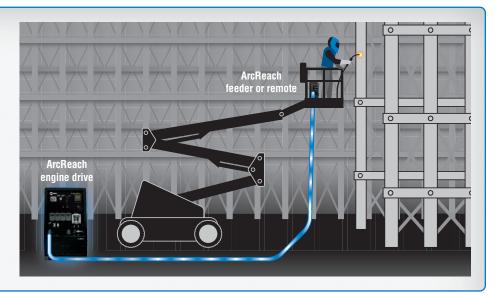


ArcReach® Remote Control Technology



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® 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 — reducing the need to access the power supply.

Automatic return to panel settings. System automatically returns to Big Blue setting when ArcReach communication is terminated. For example, if the Big Blue is set to gouging at 500 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 500 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. 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.



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.

Reduced maintenance



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.



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	Net Weight
CC/DC (Stick/TIG)	20-600 A	600 Pro 500 A at 40 V, 100% duty cycle*	92 VDC 30 VDC**	3-phase: 27,000 watts peak,	H: 46 in. (1,168 mm) W: 28.5 in. (724 mm)	600 Pro 1,750 lb. (793.8 kg)
0) (() 0	45 50.1/	550 A at 42 V, 60% duty cycle* 600 A at 42 V, 40% duty cycle		20,000 watts continuous 1-phase:	D: 69.5 in. (1,765 mm) Add 7.5 in. (191 mm) to	600 Air Pa k 2,040 lb. (925.3 kg)
CV/DC (MIG/FCAW)	15-50 V	600 Air Pak 500 A at 40 V, 100% duty cycle* 575 A at 43 V, 100% duty cycle* 600 A at 44 V, 60% duty cycle		15,000 watts peak, 12,000 watts continuous	height for exhaust pipe	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.



Certified by Canadian Standards Association to both the Canadian and U.S. Standards.

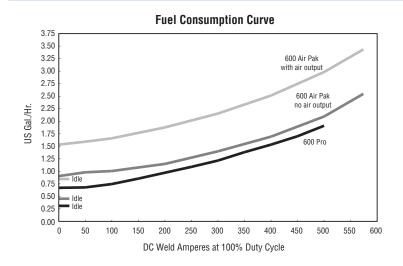
Engine Specifications (Engines warranted separately by the engine manufacturer.)

Model	Engine Brand	Features	НР	Туре	Engine Speeds	Sound Levels at 23 ft. (7 m)	Capacities	Automatic Engine Shutdown
Big Blue 600 Pro	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
Big Blue 600 Air Pak	Deutz TD2.9 L4	EPA Tier 4 Final compliant, includes 120 V block heater and automatic glow plugs	65.7	Turbo-charged four-cylinder, liquid-cooled industrial diesel	Idle: 1,350 rpm Weld: 1,800 rpm	Idle: 71.3 dB (96.1 Lwa) Weld: 78.9 dB (103.7 Lwa)	Fuel: 25 gal. (95 L) Oil: 8.5 qt. (8 L) Coolant: 16 qt. (15.2 L)	Low oil pressure, high coolant temperature, low fuel level

Air Compressor (Air Pak[™] models only.)

Compressor Brand	Features	Free Air Delivery	Working Pressure Constant	Duty Cycle	Oil Capacity	Automatic Compressor Shutdowns
Ingersoll Rand CE55 G1	Rotary screw with electric clutch for on/off. Oil change intervals of 500 hours. Life expectancy of 30,000 hours.	Idle speed: 40 cfm (1.13 m³/min.) Run speed: 60 cfm (1.70 m³/min.)	100 psig (7 bar)	100%	4 qt. (3.79 L)	Oil temperature

Performance Data



Simultaneous Welding and Power

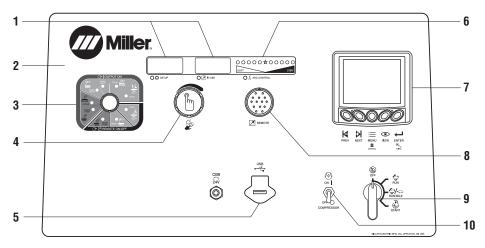
Weld Amperes	Total Aux. Power Available (Watts) 1-Phase* - or - 3-Phase				
No Weld Output	16,000	20,000			
200 A at 28 V	16,000	20,000			
300 A at 32 V	13,000	18,000			
400 A at 36 V	9,000	12,500			
500 A at 40 V	4,500	5,750			
600 A at 42 V	4,000	0			

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

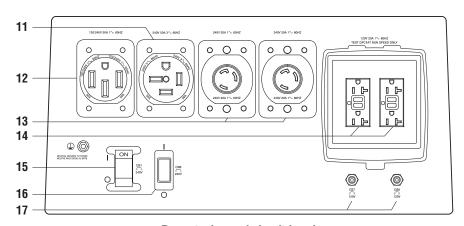


Function Guide

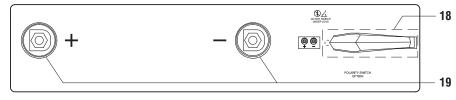
- Self-calibrating digital weld meters with fault code indication display preset or actual weld parameters.
- 2. Weatherproof Lexan® nameplate is super durable and resists cracking and fading.
- 3. Weld process selection switch
- Pushbutton main control knob used for adjusting amperage/voltage, adjusting 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, engine rpm, air pressure, and compressor hours simultaneously or one at a time. Also tracks oil change intervals and displays engine diagnostics for service technicians.
- 8. 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.
- 9. Engine control switch is used to start engine and then select between auto idle and high speed lock. Glow plug operation is controlled by the engine control module and automatically occurs as needed by ambient conditions.
- 10. Air compressor on/off switch (Air Pak models only)
- 11. 50 A, 240 V, three-phase receptacle (For matching plug, order 254140.)
- **12. 50 A, 120/240 V receptacle** (For matching plug, order **119172**.)
- 13. 20 A, 240 V receptacles
- 14. 20 A, 120 V receptacles with ground fault
- 15. 50 A circuit breaker
- 16. 20 A, 240 V circuit breaker
- 17. 20 A, 120 V circuit breakers
- Optional polarity reversing switch changes DC polarity without the use of tools.
- 19. Weld output terminals



Controls and meters



Receptacles and circuit breakers



Terminal panel



Genuine Miller® Accessories



Desiccant Air Dryer System 195117 Side mount **195117001** Rear mount

For Air Pak™ models only. A regenerating inline air dryer system that eliminates moisture in the air stream to prevent air tool freeze-ups in cold climates. Internal thermostat and heating elements ensure good air quality in all climates. The system can be mounted on the side or on the rear of the machine to meet your installation requirements.

Polarity Reversing Switch Kit 301112 Field *Standard on Deluxe model.* 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)

Engine Filter Kits

273293 Field. For Kubota engine **262459** Field. For Deutz engine Includes all filters required for proper engine maintenance. Oil filter, primary and secondary fuel filter, primary air filter, and safety element.

Compressor Kit 279121 Field

For Air Pak models only. Includes oil and all filters required for proper compressor maintenance. Oil filter, air filter and coalescing 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 LLS. Forest Service standard 5100-18.



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 model.
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 301113 Deutz Blue waterresistant 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)



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 page 2 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



SuitCase® 12RC
Wire Feeder 951580
Lightweight and flexible
enough to run a variety
of wires up to .062-inch
diameter. Includes
remote voltage control,
drive roll kit and MIG
gun. See literature M/6.5.

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, 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.

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.

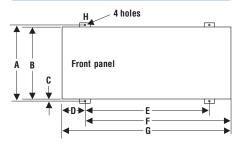


2-In-1 Document/ Fire Extinguisher Holder 301236

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



- **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.

Heiaht:

46 in. (1,168 mm) to top of cover Add 7.5 in. (191 mm) to heights for exhaust pipe (Exhaust measurement subject to change.)

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® 600 Pro Kubota EPA Tier 4 Final-compliant engine	907737 907737001 907737002	Base model with 240-volt 3-phase power Deluxe model with ArcReach®, polarity reversing switch and vandalism lockout kit Welder truck specific model with ArcReach®. See page 2 for more information		
Big Blue[®] 600 Air Pak [™] Deutz EPA Tier 4 Final-compliant engine	907750 907750001 907750002	Base model with 240-volt 3-phase power and ArcReach® Welder truck specific model with ArcReach®. See page 2 for more information Welder truck specific model with ArcReach® and rear-mounted desiccant air dryer system. See page 2 for more information		
Field Accessories				
Desiccant Air Dryer System (Air Pak models only)	195117 195117001	Side mount Rear mount		
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		
Engine Filter Kits		See page 6		
Compressor Kit (Air Pak models only)	246991	Includes oil, plus air, oil and coalescing filters		
Spark Arrestor Kit	195012			
FA-1D Lockable Flame Arrestor Fuel Cap	043947	Padlock NOT included		
Vandalism Lockout Kit	399802	Lockable front control panel and engine compartment		
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				
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		
SuitCase® 12RC	951580	With Bernard® BTB Gun 300 A. See literature M/6.5		
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		
AC 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 recommended		
RHC-14 Hand Control	242211020			
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		
				1

Date: Total Quoted Price:

Distributed by:

