

Big Blue® 500 Pro

**Diesel Engine-Driven
Welder/AC Generator** 

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 2 for specific international specs and CE ratings.

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.



Meter maintenance display (Perkins and Deutz Int'l models) includes oil pressure, coolant temperature and battery voltmeter.



BUILT TOUGH



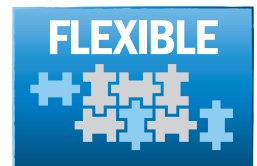
Built to last in harsh industrial environments



New standard for productivity and weld quality



International models available



Easy to add capabilities

USA model shown is



ArcReach®

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



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



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An ITW Welding Company
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MillerWelds.com
    



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).

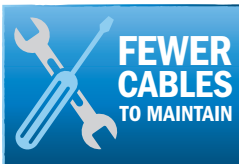
Less operator fatigue by not needing to move or reposition heavy secondary weld leads bundled with control cords on the jobsite. Control cables are not used.



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.

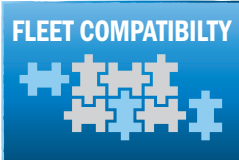
Remote override of Big Blue 500 Pro. When an ArcReach accessory is connected to a Big Blue the accessory has full control and the Big Blue controls are disabled. While under ArcReach control, process and voltage/amperage adjustments are locked out, preventing accidental changes by personnel other than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

Cross platform compatible. The same ArcReach accessories that work on engine-driven equipment can also be used on select ArcReach-equipped XMT®, Dimension™ and PipeWorx 350 FieldPro™ 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 (Kubota 907736001) with SuitCase X-TREME 12VS ArcReach feeder and Bernard S-Gun (951589), ArcReach Stick/TIG Remote (301325), and ArcReach Smart Feeder (300935) with Bernard PipeWorx 300 MIG gun (195400).

Note: ArcReach is only available on USA models.

SuitCase X-TREME 8VS/12VS ArcReach feeders for MIG or flux-cored welding

- Remote voltage control
- Polarity indication
- Auto-Process Select™



ArcReach®

ArcReach Smart Feeder for advanced wire processes

- RMD and pulsed MIG processes
- Remote voltage control
- Store and recall weld settings

ArcReach Stick/TIG Remote for stick or TIG welding

- Remote amperage control
- Polarity indication
- Arc control for stick
- 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* Perkins and Deutz Int'l models 400 A at 36 V, 100% duty cycle* 450 A at 33 V, 60% duty cycle 500 A at 30 V, 40% duty cycle	92 VDC 15 VDC**	Kubota USA models 3-phase: 27,000 watts peak, 20,000 watts continuous 1-phase: 15,000 watts peak, 12,000 watts continuous Perkins and Deutz Int'l models 3-phase: 21,000 watts peak, 15,000 watts continuous 1-phase: 15,000 watts peak, 12,000 watts continuous	Kubota USA models H: 46 in. (1,168 mm) W: 28.5 in. (724 mm) D: 69.5 in. (1,765 mm) Perkins and Deutz Int'l models H: 42 in. (1,067 mm) W: 28.5 in. (724 mm) D: 65.125 in. (1,654 mm) <i>Add 7.5 in. (191 mm) to heights for exhaust pipe</i>	Kubota USA models Net: 1,750 lb. (793.8 kg) Perkins models Net: 1,530 lb. (694 kg) Deutz models Net: 1,550 lb. (703 kg) <i>Add 51 lb. (23 kg) for ship weight</i> <i>Add 165 lb. (75 kg) when fuel tank is full</i>
CV/DC (MIG/FCAW)	14–50 V					

*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.

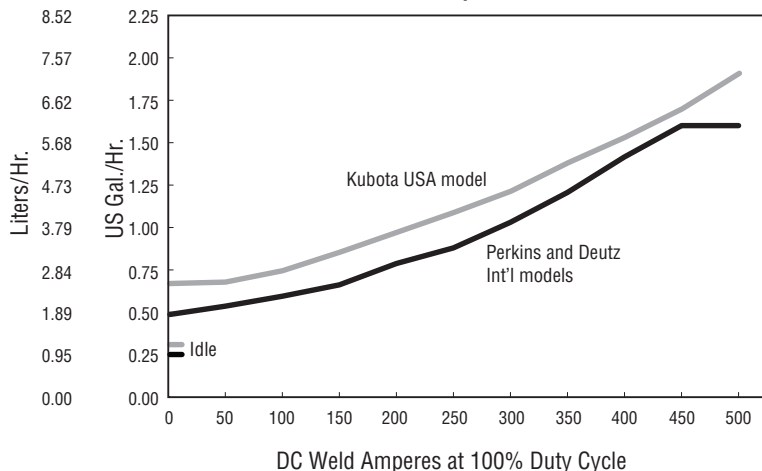
Certified by Canadian Standards Association to both the Canadian and U.S. Standards. Perkins-powered International models are approved.

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

Engine Brand	Features	HP	Type	Engine Speeds	Sound Levels at 23 ft. (7 m)	Capacities	Automatic Engine Shutdown
USA 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'l Perkins 404D.22	EPA Tier 4i compliant, includes 120 V block heater and glow plugs	32.6	Four-cylinder liquid-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: 9 qt. (8.5 L) Coolant: 9 qt. (8.5 L)	Low oil pressure, high coolant temperature, low fuel level
Int'l Deutz D2011L03i	EPA Tier 4i compliant, includes oil pan, intake manifold heater and glow plugs	32.0	Three-cylinder air/oil-cooled industrial diesel	Idle: 1,350 rpm Weld: 1,800 rpm	Idle: 67 dB (91.8 Lwa) Weld: 73.6 dB (98.4 Lwa)	Fuel: 25 gal. (95 L) Oil: 9 qt. (8.5 L) Coolant: integrated oil	Low oil pressure, high coolant temperature, low fuel level

Performance Data

Fuel Consumption Curve



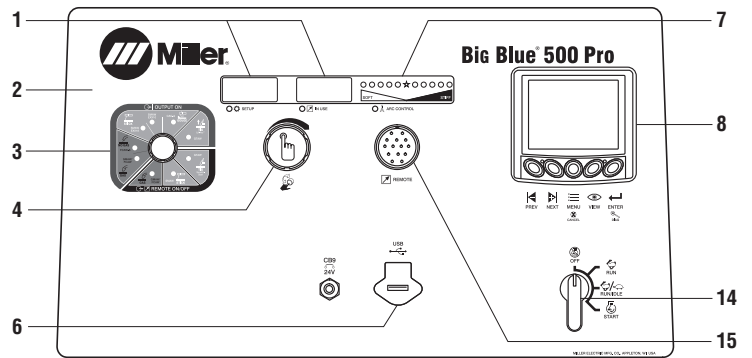
Simultaneous Welding and Power

Weld Amperes	Total Aux. Power Available (Watts)			
	Kubota USA Model		Perkins and Deutz Int'l Models	
	1-Ph*	3-Ph	1-Ph*	3-Ph
No Weld Output	16,000	20,000	16,000	15,000
200 A at 28 V	16,000	20,000	13,000	12,000
300 A at 32 V	13,000	18,000	7,000	7,800
400 A at 36 V	9,000	12,500	5,200	2,200
450 A at 38 V	6,500	7,500	4,000	1,000
500 A at 40 V	4,500	5,750	4,000	0

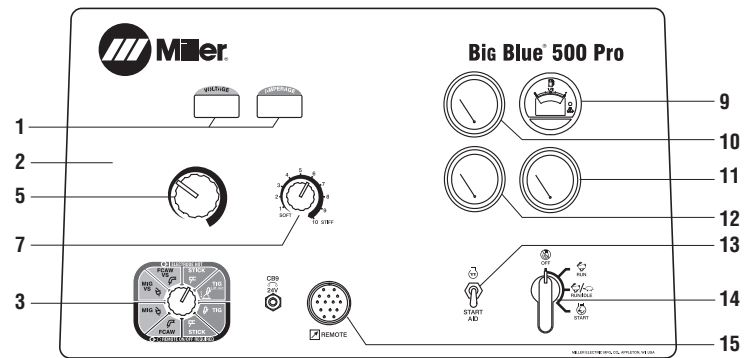
*Single-phase listings include 4,000 watts from the exciter stator.

Function Guide

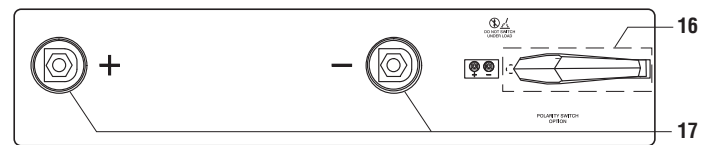
1. **Self-calibrating digital weld meters with fault code indication** display preset or actual weld parameters.
2. **Weatherproof Lexan® nameplate** is super durable and resists cracking and fading.
3. **Weld process selection switch**
4. **Pushbutton main control knob** used for adjusting amperage/voltage, adjusting arc control, and accessing the service menu.
5. **Amperage/voltage adjust control**
6. **USB port** allows software updates from a USB drive. A summary file of recorded data from the unit will be saved to a USB drive that is inserted.
7. **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.
8. **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.
9. **Fuel gauge/hour meter/oil change interval/engine shutdown indicator**
10. **Engine oil pressure gauge**
11. **Battery/voltmeter**
12. **Engine coolant temperature gauge**
13. **Glow plugs** assist in cold weather starting.
14. **Engine control switch** is used to start engine and then select between auto idle and high speed lock.
15. **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.
16. **Optional polarity reversing switch** changes DC polarity without the use of tools.
17. **Weld output terminals**



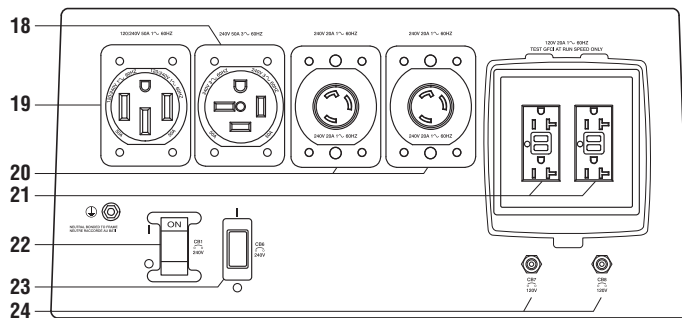
Control panel – Kubota USA models



Control panel – Perkins and Deutz Int'l models

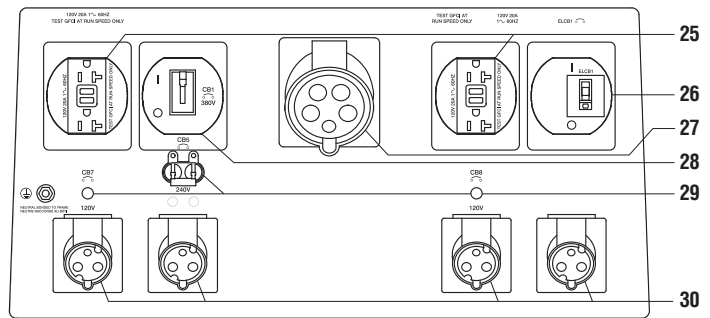


Terminal panel – all models



Receptacles and circuit breakers –
Kubota USA models

18. **50 A, 240 V, three-phase receptacle**
(For matching plug, order **254140**.)
19. **50 A, 120/240 V receptacle** (For matching plug, order **119172**.)
20. **20 A, 240 V receptacles**
21. **20 A, 120 V receptacles with ground fault**
22. **50 A circuit breaker**
23. **20 A, 240 V circuit breaker**
24. **20 A, 120 V circuit breakers**



Receptacles and circuit breakers –
Perkins and Deutz Int'l models

25. **20 A, 120 V receptacles with ground fault**
26. **240 V earth leakage circuit breaker**
27. **32 A, 400 V three-phase receptacle**
(For matching plug, order **255421**.)
28. **30 A, three-phase circuit breaker**
29. **120 and 240 V circuit breakers**
30. **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.



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
255419 1-phase, 120 V, 16 A plug
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
246985 Field. For Perkins
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.



Protective Cover

301113 Kubota USA model
194683 Perkins and Deutz Int'l models
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® X-TREME™ 8VS Wire Feeder 951582

SuitCase® X-TREME™ 12VS Wire Feeder 951543

Lightweight, voltage-sensing wire feeders include secondary contactor, gas valve, drive roll kit and MIG gun. See literature M/6.42.



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.



ArcReach® Smart Feeder 300935

For use with ArcReach models only. For MIG, FCAW, and advanced RMD® and pulse processes. See page 3 for more information.



SuitCase® X-TREME™ 8VS ArcReach®

951588 With Bernard™ S-Gun™

951584 With Bernard™ BTB Gun 300 A

SuitCase® X-TREME™ 12VS ArcReach®

951589 With Bernard™ S-Gun™

951581 With Bernard™ BTB Gun 300 A

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 cord — saving time and money. See literature M/6.42.

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.