Big Blue® 400 and 500

Issued Oct. 2008 • Index No. ED/10.8

Engine-Driven Welder/Generator

Quick Specs

Heavy Industrial Applications
Heavy Construction
Structural Steel
Maintenance and Repair Rigs
Mining Maintenance
Process Piping
Sheet Metal

Processes
Stick (SMAW)
MIG (GMAW)
Flux Cored (FCAW)
DC TIG (GTAW)
Submerged Arc (SAW)
Stud Welding
Air Carbon Arc (CAC-A)
400: (Rated) 5/16 in (8 mm) Carbons (Capable) 3/8 in (9.5 mm) Carbons
500: (Rated) 3/8 in (9.5 mm) Carbons

Output Range
400 CC:	DC Stick 55–500 A	DC/TIG 55–500 A
400 CC/CV:	DC Stick 40–550 A	DC/TIG 20–350 A
	MIG/FCAW 14–40 V	
500 CC:	DC Stick 65–600 A	DC/TIG 65–600 A
500 CC/CV:	DC Stick 40–600 A	DC/TIG 20–425 A
	MIG/FCAW 14–40 V	

Generator Output Rated at 104°F (40°C)
5500 Watts Peak—4000 Watts Continuous
400: 15,000 Watts 3-Phase/12,000 Watts 1-Phase*
500: 20,000 Watts 3-Phase/12,000 Watts 1-Phase*
**Deluxe models only.*

Accu-Rated™–Not Inflated Generator Power

The Power of Blue®

Prior Big Blue 302 owners now have a choice between the Big Blue 400 or the PRO 300.

Engine gauges standard on all models indicate engine oil pressure, coolant temperature.

Designed for fleet owners that demand the ultimate in reliability and performance.

Enclosed robust case design protects internal components from impact and allows air flow to cool and prolong the life of the engine. Also reduces sound levels.

Quick and easy maintenance with single-side access to oil level check, oil fill, oil filter, fuel filter and air cleaner.

Remote toolless oil drain allows oil to be drained without getting under the engine and reduces the chance of oil spillage.

CC/CV Models: The Vault—ultimate control board reliability. See page 3.

BUILT TOUGH

DEUTZ
Perkins

Heavy duty industrial engine choices designed, built and proven to operate over 10,000 hours before the first basic overhaul.

Improved! Maintenance Displays!

Big Blue 500 CC/CV Deluxe Model

***NEW!* Meter maintenance displays.**
- Hour meter function
- Oil change interval
- High coolant temperature and low oil pressure shutdowns
- Low fuel shutdown — engine shuts downs before system runs out of fuel, making restarts easy.

Arc-Drive makes welding easy. Automatically enhances Stick welding, especially on pipe, by focusing the arc and preventing the electrode from going out.

Hot Start™ provides positive Stick electrode starts making it easy to start all types of electrodes and it also works great for bead tie-ins.

Weatherproof Lexan® nameplate resists cracking and fading, and is color-coded for ease of operation.

GFCI receptacle as required on most job sites to protect operators from electrical hazards.

CSA and NEMA compliant for welders. Degree of protection provided by enclosure IP23.

TRUE BLUE® 3 YR. 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®

Miller Electric Mfg. Co.
An Illinois Tool Works Company
1635 West Spencer Street
Appleton, WI 54914 USA

International Headquarters
Phone: 920-735-4505
USA FAX: 920-735-4134
Canadian FAX: 920-735-4169
International FAX: 920-735-4125

Web Site
www.MillerWelds.com

ISO 9001:2000 REGISTERED QUALITY SYSTEM

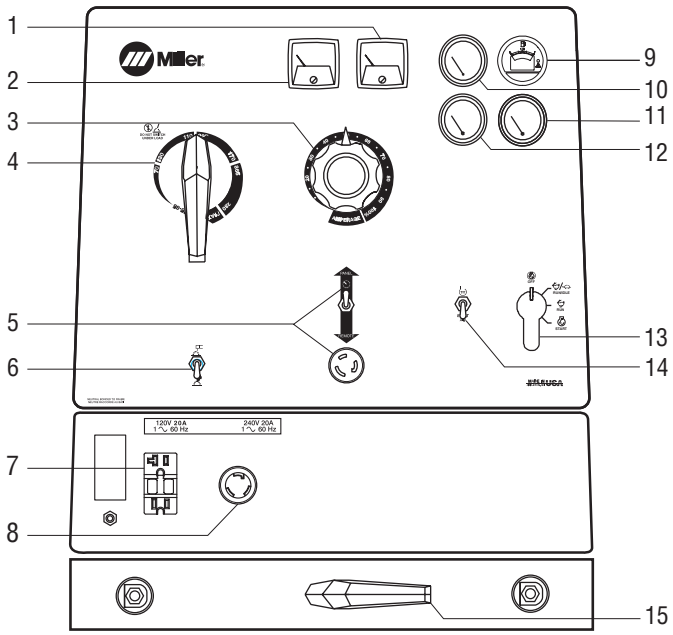
Big Blue 400 and 500 CC Specifications (Subject to change without notice.)

Model	Welding Mode	Weld Output Range	Weld Output Rated at 104˚F (40˚C)	Max. Open-Circuit Voltage	Generator Output Rated at 104˚F (40˚C)	Dimensions**	Weight (without fuel)***
Big Blue 400 CC	CC/DC	55 – 500 A	400 A at 36 V (14.4 kW),* 100% Duty Cycle 450 A at 38 V (17.1 kW),* 60% Duty Cycle 500 A at 30 V (15 kW), 40% Duty Cycle	95	**Peak:** 5500 watts **Continuous:** 4000 watts, 34/17 A, 120/240 VAC, 50/60 Hz while welding	H: 43 in (1092 mm) W: 28-1/2 in (724 mm) D: 64-7/16 in (1637 mm)	**Perkins:** 1545 lb (701 kg) **Deutz:** 1655 lb (751 kg)
Big Blue 500 CC		65 – 600 A	500 A at 40 V (20 kW),* 100% Duty Cycle 550 A at 34 V (18.7 kW), 60% Duty Cycle 600 A at 30 V (18 kW), 40% Duty Cycle				**Perkins:** 1565 lb (710 kg) **Deutz:** 1695 lb (769 kg)

**NEMA EW1 (ANSI C87.1) Class (1) output ratings. **Additional 7 in (178 mm) to top of exhaust. ***Additional 190 lb (86 kg) when fuel tank is full.*

CSA certification by Canadian Standards Association.

Big Blue 400 and 500 CC Control Panel



1. DC Ammeter*
2. DC Voltmeter*
3. Amperage Adjust Control
4. Amperage Range Switch
5. Amperage Adjust Switch and Remote Amperage Adjust Receptacle
6. Stick/TIG Selector Switch
7. 120 VAC, 20 A GFCI Duplex Receptacle
8. 240 VAC, 30 A TwistLock Receptacle (NEMA L6-30)
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. Engine Control Switch
14. Starting Aid Switch
15. Polarity Switch*

**Optional.*

Additional Features

Proven, rugged rheostat control technology that has been in Miller engine drives for over 60 years. Contains no printed control boards.

A **Stick/TIG switch** optimizes open-circuit voltage for Stick welding and allows the open-circuit voltage to be lowered for scratch start TIG welding.

Provisions are provided to plug a **RHC3GD34A remote control** that will allow precise adjustment of amperage without walking back to the machine.

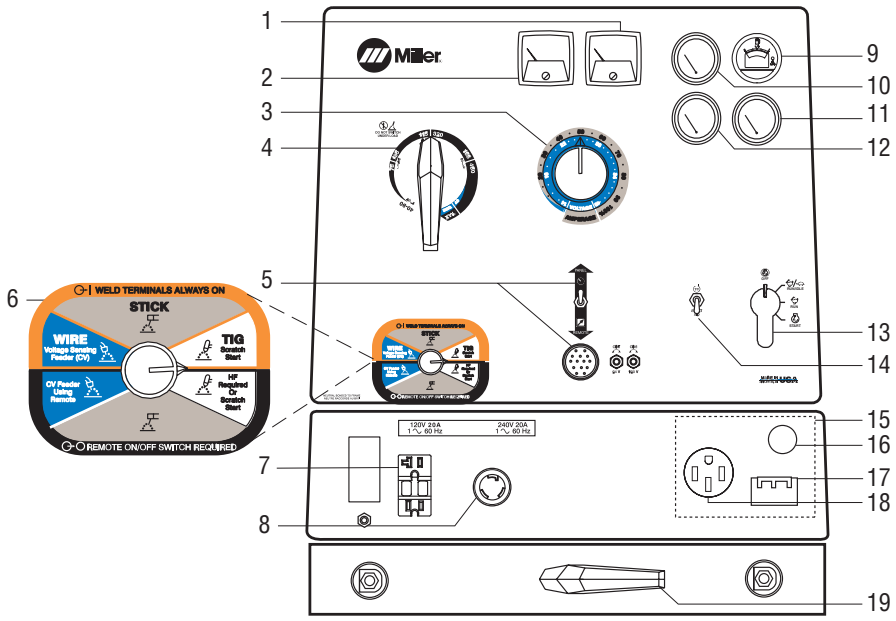
Big Blue 400 and 500 CC/CV Specifications (Subject to change without notice.)

Model	Welding Mode	Weld Output Range	Weld Output Rated at 104˚F (40˚C)	Max. Open-Circuit Voltage	Generator Output Rated at 104˚F (40˚C)	Dimensions**	Weight (without fuel)***
Big Blue 400 CC/CV	CC/DC CV/DC	20–550 A 14–40 V	400 A at 36 V (14.4 kW),* 100% Duty Cycle 450 A at 38 V (17.1 kW),* 60% Duty Cycle 500 A at 34 V (17 kW), 40% Duty Cycle	95	**Peak:** 5500 watts **Continuous:** 4000 watts, 34/17 A, 120/240 VAC, 50/60 Hz while welding	H: 43 in (1092 mm) W: 28-1/2 in (724 mm) D: 64-7/16 in (1637 mm)	**Perkins:** 1545 lb (701 kg) **Deutz:** 1655 lb (751 kg)
Big Blue 500 CC/CV		20–600 A 14–40 V	500 A at 40 V (20 kW),* 100% Duty Cycle 550 A at 42 V (23.1 kW), 60% Duty Cycle 600 A at 34 V (20.4 kW), 40% Duty Cycle				**Perkins:** 1565 lb (710 kg) **Deutz:** 1695 lb (769 kg)

**NEMA EW1 (ANSI C87.1) Class (1) output ratings. **Additional 7 in (178 mm) to top of exhaust. ***Additional 190 lb (86 kg) when fuel tank is full.*

CSA certification by Canadian Standards Association.

Big Blue 400 and 500 CC/CV Control Panel



1. DC Ammeter
2. DC Voltmeter
3. Amperage/Voltage Adjust Control
4. Amperage Range Switch
5. Amperage/Voltage Adjust Switch and Remote Amperage/Voltage Adjust Receptacle
6. Process/Contactor Selector Switch
7. 120 VAC, 20 A GFCI Duplex Receptacle
8. 240 VAC, 30 A TwistLock Receptacle (NEMA L6-30)
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. Engine Control Switch
14. Starting Aid Switch
15. 3-Phase Power Generator Option
16. Strain Relief
17. 50 A, 3-Phase Circuit Breaker
18. 50 A, 120/240 V Receptacle (NEMA 14-50)
19. Polarity Switch*

**Optional.*

Additional Features

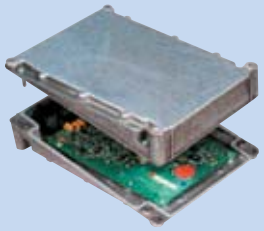
One MIG welding range allows precise voltage control for welding with .023–.120 in (0.6–3.2 mm) wires.

A multi-colored **process selector control** allows quick and easy process changes without having to use multiple switches.

14-pin remote control allows precise adjustment of amperage or voltage, along with contactor control, without walking back to the machine.

The Vault — 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.

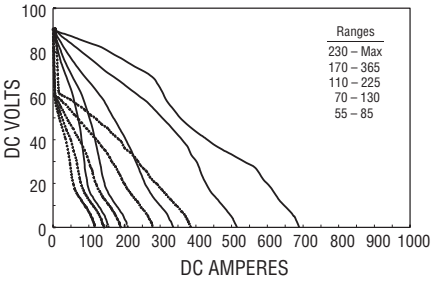
"The Vault" Makes Upgrading to Miller CC/CV Units Worry-Free
Concerns with circuit board reliability have resulted in some operators steering clear of CC/CV welder/generators — even though they offer a superior arc and multiple welding processes. Miller's circuit board reliability isn't a concern since all PRO 300 and Big Blue multiprocess industrial engine drives feature the Vault.



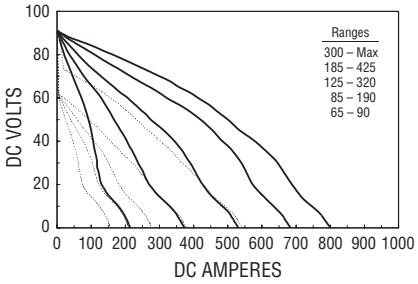
Created out of two aluminum halves sealed with silicone, as well as watertight harness connections, the Vault provides a clean circuit board environment, protecting the electronics — and controlling output — in heavy industrial applications. No other competitor protects their electronics with a sealed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

Big Blue 400 and 500 CC Performance Data

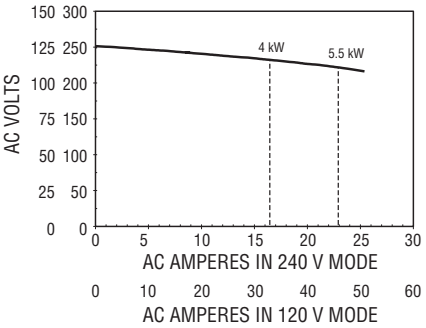
400 CC
VOLT/AMP CURVES – STICK MODE



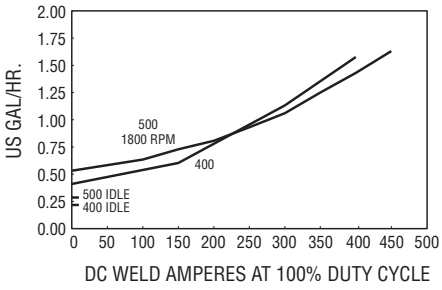
500 CC
VOLT/AMP CURVES – STICK MODE



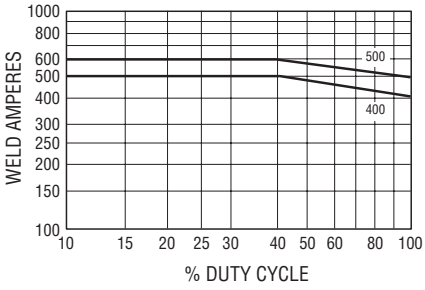
GENERATOR POWER CURVE



FUEL CONSUMPTION CURVE

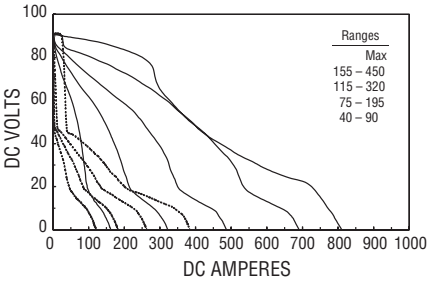


DUTY CYCLE CURVE

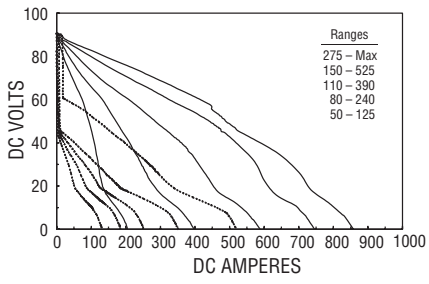


Big Blue 400 and 500 CC/CV Performance Data

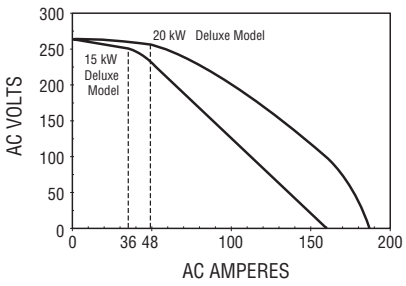
400 CC/CV
VOLT/AMP CURVES – STICK MODE



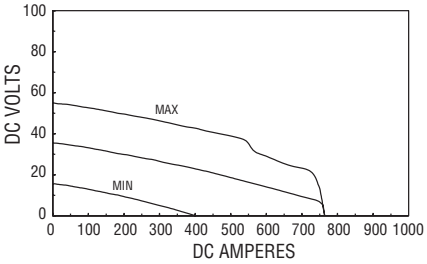
500 CC/CV
VOLT/AMP CURVES – STICK MODE



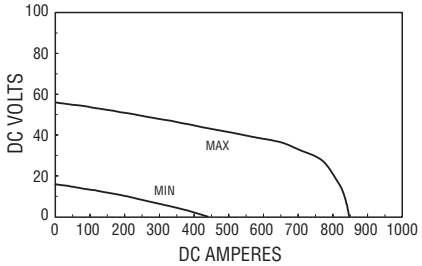
3-PHASE GENERATOR
POWER CURVE



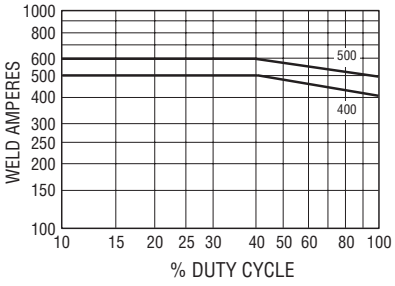
400 CC/CV
VOLT/AMP CURVES – MIG MODE



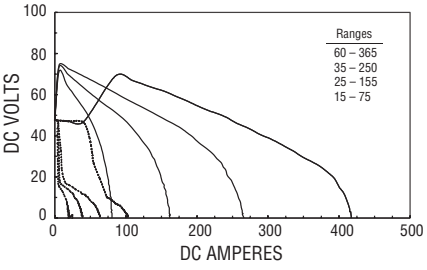
500 CC/CV
VOLT/AMP CURVES – MIG MODE



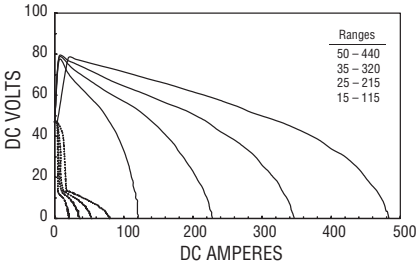
DUTY CYCLE CURVE



400 CC/CV
VOLT/AMP CURVES – TIG MODE



500 CC/CV
VOLT/AMP CURVES – TIG MODE



FUEL CONSUMPTION CURVE