

# Big Blue® 300 Pro

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

## Quick Specs

### Industrial Applications

Pipe Welding  
Structural Steelwork  
Fabrication  
Maintenance  
Repair  
Rental  
Construction

### Processes

Stick (SMAW)  
MIG (GMAW)  
Flux Cored (FCAW)  
DC TIG (GTAW)  
Air Carbon Arc (CAC-A)  
Rated: 3/16 in (4.8 mm) carbons,  
Capable: 1/4 in (6.4 mm) carbons  
Air Plasma Cutting and Gouging with  
optional Spectrum models

**Output Range** DC Stick 40–410 A  
DC TIG 20–410 A  
FCAW/MIG 14–40 V

**Generator Output Rated at 104°F (40°C)**  
12,000 Watts Peak  
10,000 Watts Continuous

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

## The Power of Blue.®

**The Professional Welder's Choice** — designed with the professional in mind, the Big Blue 300 Pro is the best for ease of use, reliability and fuel economy.

**BUILT  
TOUGH**

**Improved!**

**Superior Arc  
Performance!**

**Heavy-Duty Low-Speed  
Industrial Engine Choices!**



**CATERPILLAR C1.5,  
21.7 HP @ 1800 RPM  
industrial engine**



**Deutz D2008 L04,  
24.3 HP @ 1800 RPM  
industrial engine**

### Superior arc performance

- Four preset DIG settings (Stick)
- Hot Start™ (Stick)
- Lift-Arc™ TIG with Auto-Stop™ and Crater-out
- MIG/FCAW arc performance

**Tailored Arc Control (DIG)** allows the arc characteristics to be changed for specific applications and electrodes. Smooth running 7018 or stiffer, more penetrating 6010 electrodes.

**Simple-to-set controls** require no elaborate procedure — just select process and weld!

**Auto Remote Sense (ARS)** detects if a remote control is plugged into the 14-pin receptacle and eliminates confusion of a remote/panel switch.



**The Vault** — ultimate control board reliability. See page 4.



All engines designed to operate over 10,000 hours before the first basic overhaul. Backed by worldwide support and service.

### 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:** Improves work site communication.

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

**Optional Stainless Steel Appearance Package** provides additional exterior protection to withstand corrosive environments.

**Standard features include:** Stick, Lift-Arc™ TIG, Flux Cored and MIG. Other features include digital preset weld meters, output contactor control, and automatic idle.

**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

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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 104°F (40°C)	Max. Open-Circuit Voltage	Generator Power Output Rated at 104°F (40°C)	Sound Levels at Rated Output, 7 m (23 ft)	Dimensions	Net Weight (without fuel)*
CC/DC	20–410 A	400 A, 21 VDC, 30% Duty Cycle 300 A, 32 VDC, 60% Duty Cycle	65	12,000 Watts Peak 10,000 Watts Continuous Single-phase, 120/240 VAC, 83/42 A 60 Hz	<b>CAT:</b> 71 dB (96 Lwa) <b>Deutz:</b> 73 dB (98 Lwa)	H: 32 in (813 mm) W: 26-1/4 in (667 mm) D: 56 in (1422 mm)	<b>CAT:</b> Net: 1100 lb (499 kg) Ship: 1150 lb (522 kg) <b>Deutz:</b> Net: 1208 lb (548 kg) Ship: 1230 lb (558 kg)
CV/DC	14–40 V						

CSA approved. Meets NEMA and IEC output ratings.

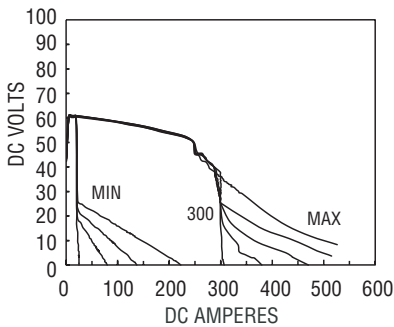
\*Additional 82 lb (37 kg) when fuel tank is full.

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

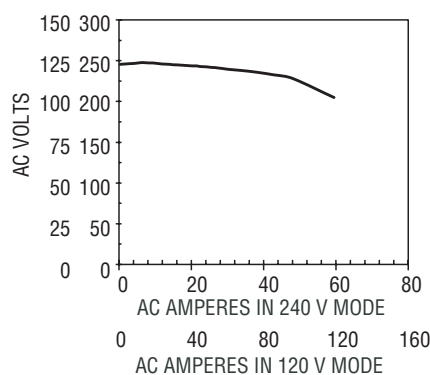
Engine Brand	Features	HP	Type	Engine Speeds	Fuel Capacity	Oil Capacity	Coolant Capacity	Automatic Engine Shutdown
CATERPILLAR C1.5	EPA Tier 4i indirect-injected liquid-cooled engine. Right side service access with intervals of 250 hrs for oil and filters.	21.7	3-cylinder, industrial liquid-cooled, diesel	1850 RPM weld (1500 RPM idle)	11.5 gal (43.5 L)	6 qt (5.7 L)	6 qt (5.7 L)	Low Oil Pressure, High Coolant Temperature, Low Fuel Level
Deutz D2008 LO4	EPA Tier 4i indirect-injected liquid-cooled engine. Right side service access with intervals of 250 hrs for oil and filters.	24.3	4-cylinder, industrial liquid-cooled, diesel	1800 RPM weld (1500 RPM idle)				

## Performance Data

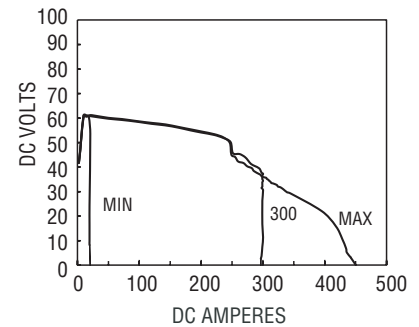
STICK MODE V/A CURVE – MAX DIG



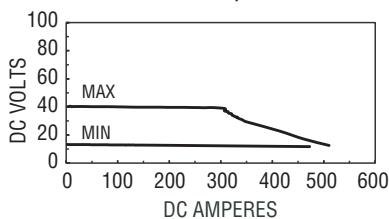
GENERATOR POWER CURVE



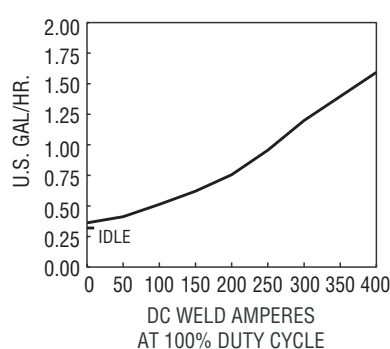
DC TIG MODE V/A CURVE



MIG MODE V/A CURVE



FUEL CONSUMPTION CURVE



SIMULTANEOUS WELDING AND POWER

Weld Amperes	Total Power Available (Watts)	120 V	240 V
225	3000	25	12.5
175	5000	41.6	20.8
125	5900	49.2	24.6
75	7300	60.8	30.4
25	10,000	83.5	41.7

# Function Guide

- Self-calibrating digital weld meters with meter maintenance displays.**
- Four Preset DIG Settings** offer the best arc characteristics for different electrodes and joint designs. The amount of DIG determines how much amperage (heat) varies with Stick arc length. The combined Process switch along with preset DIG settings make the Big Blue® 300 Pro easy to set without the complication of multiple switches.
- 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.
- Great MIG/FCAW Performance and Arc Starts** make the Big Blue® 300 Pro's arc best in its class. Easy to run all wires from .023 in solid wires to large diameter 5/64 in flux cored wires.

**5. Lift-Arc™ TIG with Auto-Stop™ and Crater-out** (patents pending)

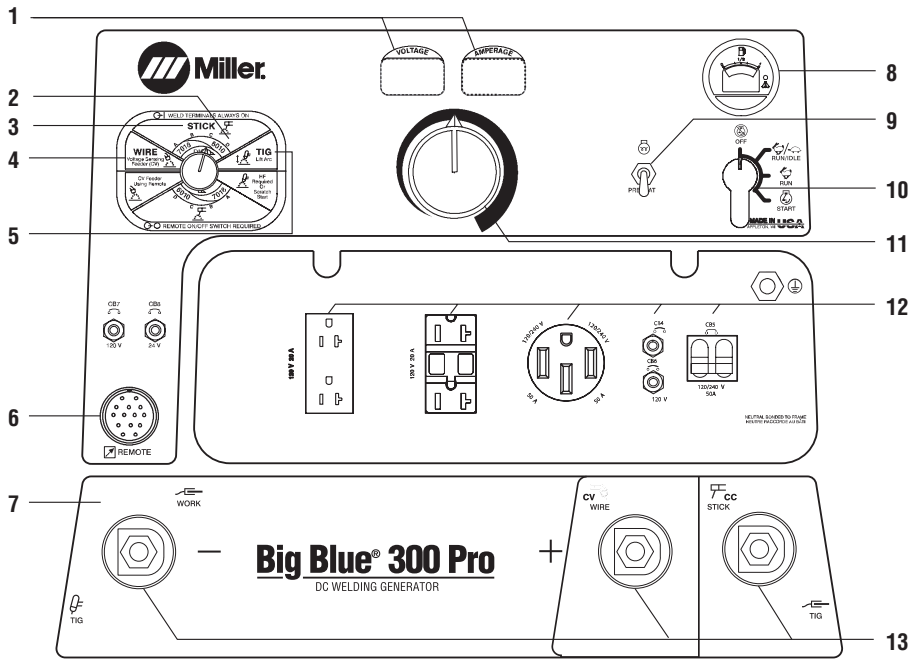
- Standard 14-Pin Receptacle** for simple connection of remote controls and wire feeders. It features **Auto Remote Sense™** which automatically switches from Panel to Remote Amperage/Voltage (A/V) control with remote connected. Eliminates confusion of the Panel/Remote A/V switch.
- Weatherproof Lexan® Nameplate** is super durable and resists cracking and fading. Color coding is for ease of operation.

- Fuel Gauge** displays engine hours and oil change interval information.  
**Low Fuel Shutdown** shuts engine off prior to running out of fuel to prevent loss of fuel in the system, and make restarts easy. Display will read noFUEL. Turn the machine off, add fuel, and restart.

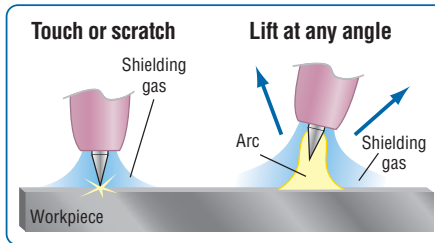
- Glow Plugs** assist in cold weather starting.
- Engine Control Switch** is used to start the engine and then select between Auto Idle and High Speed Lock.

- Amperage/Voltage Adjust Control**
- 120 VAC and 240 VAC Receptacles with Circuit Breakers** (optional 120 VAC GFCI receptacles available).  
*Note: For matching plug, order #119 172.*

- Weld Output Terminals**

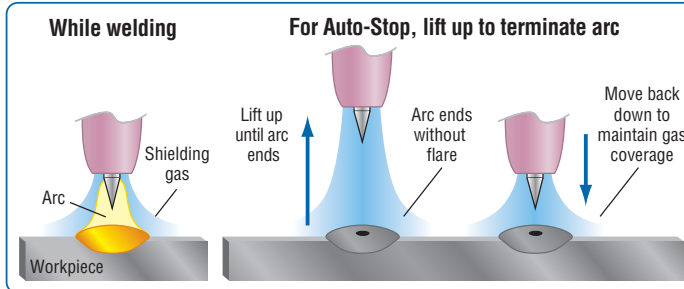


## ARC START with Lift-Arc™



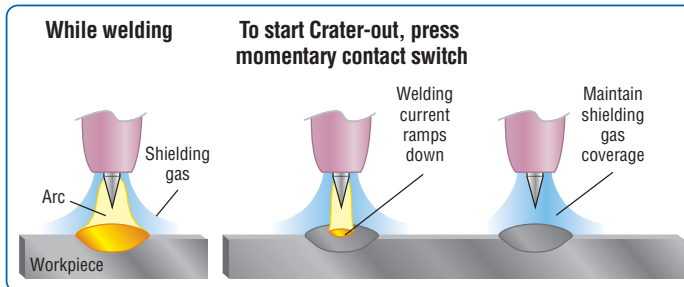
- Reduces or eliminates sticking
- Reduces or eliminates electrode/work contamination
- Low open-circuit voltage (approximately 10 volts)

## ARC END with Auto-Stop™



- Eliminates need for a remote control
- Maintains shielding gas coverage
- Eliminates tungsten and workpiece contamination
- Eliminates unwanted arc strikes outside the weld area

## ARC END with Crater-out

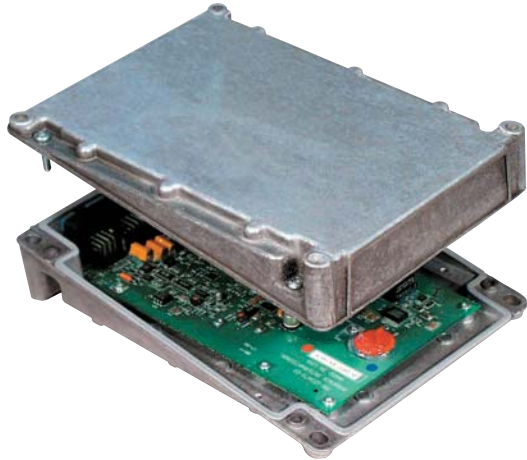


- Maintains shielding gas coverage
- Eliminates tungsten and workpiece contamination
- Crater-out time allows for addition of filler
- Eliminates unwanted arc strikes outside the weld area

# 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.



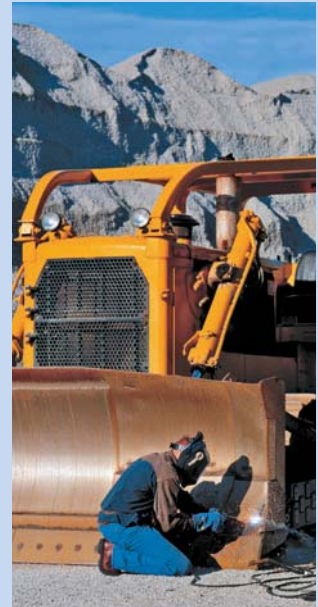
*"The Big Blue® 300 Pro worked year 'round and never caused any problems. We were amazed at the cold-weather starting. A machine that doesn't run means we have to work overtime... secondly, you don't want to have a crew standing around at \$200 an hour while someone tries to start the machine."*

*Edward McNaughton, Nordcap Steel Docks*

## 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 104°F, but actual tests are conducted up to 122°F 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 provide 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](http://MillerWelds.com).