Engine Drive Buyer's Guide

For Welding and Power Generation

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Understanding Features and Benefits

Picking the best engine drive isn't easy! Each model delivers a variety of features and benefits. Some offer a lower purchase price, while others reduce operating expenses and cost less over the long haul. For special applications, certain machines deliver superior results. To top it off, Miller recently introduced several new engine drives with benefits never before possible.

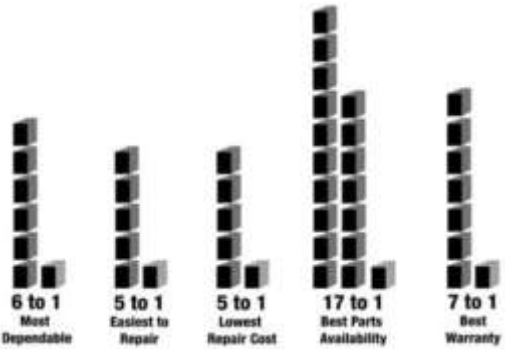
To help you choose an engine-driven welding generator, Miller Electric produced this Engine Drive Buyer's Guide. We hope this review of products, processes, selection criteria, application notes and common Q&A leads you to select an engine drive that satisfies you for years.

Reliability

We know you value reliability more than any other attribute. If a machine doesn't work, it affects your whole operation. That's why Miller designs its engine drives so you can count on flawless operation day after day, year after year.

If you earn a living with your welding machine, check out these facts, taken from an independent, blind survey of welding service technicians:

Miller Rated Most Reliable by High Margins



Survey Respondents: "Miller is the only company I don't have warranty problems with," "Miller does an excellent job with their service and procedure booklets — their 1-800 number is a great resource," "I have worked with Miller for 35 years and they are the best by far."

Welding Processes

Stick Welding (SMAW): All Miller engine drives produce a DC constant current (CC) output for Stick welding. Every Miller machine offers a great Stick arc to satisfy the most demanding professionals.

DC TIG Welding (GTAW): TIG welding done in the field on steel, stainless and other ferrous metals requires a DC, CC arc. You can DC TIG weld with every Miller engine drive.

AC TIG Welding (GTAW): For TIG welding on aluminum and other non-ferrous metals, you need an AC output. Miller offers engine drives for making critical welds that meet code requirements, as well as for non-critical AC welding.

MIG and FCAW (Wire Welding/GMAW): If you want to weld with solid or cored wires, consider an engine drive with DC constant voltage (CV) capabilities. While you can run cored wires by adding a voltage-sensing wire feeder to a CC engine drive, machines with CV capabilities deliver superior results. To start, they are much easier to fine tune, especially when welding with certain self-shielded wires in structural applications. In addition, you'll need CV capabilities if you want to run aluminum or small diameter hard wires for thin gauge material.

Miller offers engine drives with CV capabilities, as well as CC engine drives with factory and/or field installed CV options.

Gouging: Air Carbon Arc gouging puts a lot of stress on a machine. While you can do it with a smaller unit, engine drives offering at least 300 amps of power *at a high duty cycle* work best for gouging. If you need to remove a lot of metal, look for an engine drive with a peak output of at least 500 amps. This will let you run 3/8 in. diameter carbons, so you'll get the job done faster.

Amperage Requirements

Welding amperage requirements largely depend on the diameter and type of electrode you want to use. The following charts provide suggested operating ranges for common Stick, wire and carbon arc gouging electrodes. This helps you determine which electrode sizes you can run with a particular machine.

Stick dia.	3/32 in.	1/8 in.	5/32 in.	3/16 in.	1/4 in.
6010, 6011	40–85	75–125	110–165	140–210	210–315
6013	40–90	80–130	105–180	150–230	250–350
7018	60–100	110–165	150–220	200–275	320–400

Wire	.030 in.	.035 in.	.045 in.	.052 in.	1/16 in.
Tubular	—	—	15–36V 105–340A	15–36V 110–430A	15–40V 140–480A
Self-shielded flux cored	—	14–20V 50–120A	15–18V 70–160A	—	14–22V 146–322A
MIG	17–23V 50–200A	18–25V 50–225A	18–34V 85–355A	21–39V 150–500A	26–40V 250–610A

Wire	.072 in.	5/64 in.	3/32 in.	7/64 in.	1/8 in.
Tubular	22–36V 200–495A	23–33V 250–510A	24–36V 355–615A	—	26–32V 375–640A
Self-shielded flux cored	16–25V 130–350A	16–35V 145–545A	16–35V 200–525A	22–33V 310–625A	28–38V 400–600A

Air Carbon Arc Gouging

Carbon Diameter	1/8 in. 3 mm	5/32 in. 4 mm	3/16 in. 5 mm	1/4 in. 6 mm	5/16 in. 8 mm
Min. Amps	60	90	200	300	350
Max. Amps	90	150	250	400	450

Carbon Diameter	3/8 in. 10 mm	1/2 in. 13 mm	5/8 in. 16 mm	Flat 3/8 in. 10 mm	Flat 5/8 in. 16 mm
Min. Amps	450	800	1000	250	300
Max. Amps	600	1000	1250	450	500

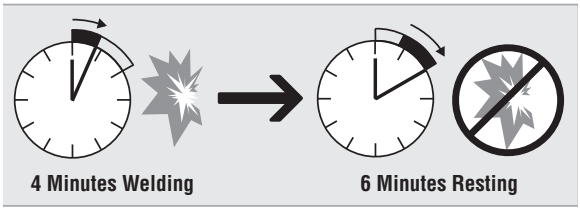
Duty Cycle

Duty cycle is the amount of time during a 10-minute period that an engine drive can continuously operate at its rated welding output without causing overheating damage to the system.

Taking the Heat. Miller runs duty cycle tests at 104° F (40° C) ambient temperature, which simulates hot summer conditions. 104° F is rated higher than any competitive machine. In side-by-side, real-world encounters at Gulf Coast refineries, Miller engine drives gouged all day long. Competitive units overheated and shutdown, causing work delays.

For applications requiring extensive arc-on time with large electrodes, choose a welder with a high duty cycle and high amperages.

40% Duty Cycle



Many Miller engine drives provide outputs higher than their 100% rating, but at a lower duty cycle. For instance, the Big Blue 500 produces a maximum of 600 amps, but has a 40% duty cycle with this output.

Note: Most Stick electrodes are consumed in less than two minutes, which means they require a 20% duty cycle. All Miller engine drive product specification sheets include duty cycle times.

No Cut Outs. Most Miller machines are rated at 60% duty cycle or higher. Most of these are rated at 100%, giving you full weld and generator power in the toughest environments.

Generator Power

Miller packs its engine drives with 120/240VAC generator power to run tools, lights, start motors and power equipment. In fact, tools perform better when run off Miller engine drives.

Full Speed Ahead. Never put up with slow tool speed, such as limited RPM on drills or saws. Miller engine drives provide full voltage for optimum performance and maximum tool life.

Full Voltage. Miller's minimum standard for rating generator power holds the voltage within 10% of 120/240V (within the ratings of most jobsite equipment).

Smooth Power—Not Spike Power. Revolutionary ten-degree skewed-rotor design found in the Bobcats optimizes generator performance for smoother power—not spiked power found with other brands. Better power—better performance.

Continuous Power. To ensure continuous power in hot summer conditions, we place engine drives in a 104° F (40° C) test cell, and run them under load until internal temperatures stabilize. For example, the Trailblazer 302 runs at 9.5 kW for a minimum of 4 hours.

Toughest Test. Miller obtains its continuous generator power ratings (100% duty cycle) using the industry's most stringent guidelines: our own.

Peak Power. At Miller peak power refers to generator power beyond the "continuous" rating. You can use this temporary burst of power to start motors or plasma cut. To test peak power, we place engine drives in an 86° F (30° C) test cell and run them under heavy load for 30 minutes. We then put them under a peak load for a minimum of 30 seconds. If the voltage stays within 10% of nominal and the machine remains cool, we approve the peak rating.

Generator Power While Welding

All Miller engine drives provide simultaneous welding and generator power. This means that while one operator welds, others can run tools and lights. Miller is the clear choice when productivity counts.

Bobcat® Generation

Weld Current (Amps)	Total Power (Watts)	120V Receptacle (Amps available)	240V Receptacle (Amps available)
0	11,000	88*	44*
90	8000	66*	33
125	5200	43*	21
180	3500	29*	14
250	2200	18	9

**50A, 120/240 VAC receptacle. See owner's manual for additional information. Note: Kohler = 11,000 watts, Subaru/Robin = 10,500 watts.*

Several Miller engine drives deliver superior performance in *multiple-task* applications providing continuous generator power independent of weld settings. This means the operator who is welding with a product like the Trailblazer® Series can set the amperage control less than maximum while other operators can still draw on full auxiliary voltage (120/240 V).

Trailblazing Power

Weld Current (Amps)	Total Power (Watts)	120V Receptacle (Amps available)	240V Receptacle (Amps available)
300	1000	10	5
250	3500	31	15
200	5200	46	23
150	6700	60	30
100	8000	70	35

When welding at an average of 150 amps, the Trailblazer® Series still delivers 6,700 watts of power to run lights and tools. Some competitive engine drives cannot provide any generator power under this welding load.

Power Requirements To Run Tools and Motors (Approximate)

FARM EQUIPMENT	Starting Watts	Running Watts
Barn cleaner (5 HP)	11,600	3,000
Silo unloader (5 HP)	12,200	4,300
Portable conveyer (1/2 HP)	3,400	1,000
Milker (5 HP)	10,500	2,800
CONTRACTOR TOOLS		
Hand drill (1/2 in)	600	600
Circular Saw (8-1/4 in)	1,400	1,400
Air compressor (1-1/2 HP)	8,200	2,200
Flood lights (vapor)	1,250	1,000
HOUSEHOLD		
Refrigerator/freezer	2,200	700
Sump pump	1,300	800
WELDING/CUTTING EQUIPMENT		
Millermatic 210 MIG welder, 3–210 A, 230 V	6,500	6,500
Spectrum 625 30 A 230 V 1/2 in cut	6,900	6,900

Plasma Cutters and Generator Power

Tired of dragging around a bulky oxy-fuel rig and fed up with the slow cutting speeds of saws, cut-off wheels and shears? That's why many contractors have switched to plasma machines for cutting stainless steel, aluminum, mild steel or any conductive metal. Miller Spectrum series of plasma machines cut substantially faster than any other option — and they can run off your engine drive's generator power.

Miller designed the Spectrum plasma cutters listed below to operate smoothly using generator power.

Spectrum® 2050. With Auto-Line™. To cut metal up to 3/4 in., pair a 10 kW engine drive with the Spectrum 2050 at 50 amps. To get its full 55 amp output — and cut metal up to 1 in. thick — use 12 kW generator power. This plasma cutter weighs only 70 lb., so it's easy to move.

Spectrum® 625. Can be powered by any Miller welding generator with power output of 8 kW or more.

Can produce a 5/8 in. quality cut and has loads of features that make your cutting needs a breeze.

Spectrum® 375. For steel less than 3/8 in. thick, consider using the Spectrum 375. It only needs 4 kW of generator power to produce its maximum cutting output.

Following are a few engine drive products and their plasma cutting capabilities when linked to a Spectrum® 2050.

Engine drive product	2050's steel quality cut	2050's output setting	Gen. power supplied
Big 40®	7/8 in.	50A	15kW (optional)
Big Blue® 402	7/8 in.	50A	20kW (optional)
Bobcat 250	3/4 in.	50A	11kW
PRO 300	3/4 in.	50A	10kW
Trailblazer 302	3/4 in.	50A	11kW

Note: Kohler = 11,000 watts, Subaru/Robin = 10,500 watts.

Smooth Cutting. Tired of plasma cutters that are highly susceptible to erratic arcs, shut downs or failures when operating off engine drives? Then turn to the Spectrum series from Miller. Their Auto-Line, Auto-Link and extra-wide line voltage compensation features ensure consistent power for smooth cutting.

Engine Options

Which engine works best for you? The answer may depend on brand preference, fuel costs and consumption, the need to match other equipment, convenience of local service and meeting safety* regulations (such as those mandating diesel or LP fuel in hazardous environments).

Choice: Miller gives you the choice of powering your welding generator with the industry's best-known engines: **Kohler, Subaru/Robin, Kubota, Deutz, Perkins, CATERPILLAR, and Honda.**

Engineers from Miller Electric and engine manufacturers work together to optimize the engine for use in a welding generator. This improves the performance of both the engine and the welding generator.

True Blue® Confidence. Miller covers all welding-related components under its True Blue 3-Year Warranty. Engine manufacturers separately warrant the engine.

Engine Drive Chart

	Product	Welding Amperage Range	Dimensions	Weight	Standard Generator Power	Engine Brand
GAS	**Blue Star® 145**	40–145 DC	H: 22.75" W: 22.75" D: 31.6"	295 lb	4.5 kW	Kohler 10 HP gas
	Blue Star® 185	55–185 DC	H: 22.75" W: 22.75" D: 31.6"	315 lb	6 kW	Kohler 13 HP gas
	Bobcat™ 225	50–225 AC/CC 50–210 DC/CC	H: 33" W: 20" D: 45.5"	530 lb	10.5 kW	Kohler 23 HP gas Robin 22 HP gas
	Bobcat™ 3 Phase	50-225 AC/CC 50-210 DC/CC	H: 33" W: 20" D: 45.5"	540 lb	10 kW-1Ø 11 kW-3Ø	Kohler 23 HP gas
	Bobcat™ 250	40–250 CC 90–275 CV	H: 33" W: 20" D: 45.5"	560 lb	11 kW	Kohler 23 HP gas/LP Robin 22 HP gas
	Miller Legend® 302	20–300 DC	H: 33.5" W: 20" D: 45.5"	580 lb	5.5 kW	Kohler 20 HP gas
	Trailblazer® 275 DC	20–275 DC	H: 33" W: 20" D: 45.5"	580 lb	11 kW	Kohler 23 HP gas/LP Robin 22 HP gas
	Trailblazer® 302	30–225 AC 20–325 DC	H: 33" W: 20" D: 45.5"	580 lb	11 kW	Kohler 23 HP gas/LP Robin 22 HP gas
DIESEL	**Trailblazer® 302 Diesel**	35–225 AC 20–325 DC	H: 33" W: 20" D: 52"	720 lb	11 kW	Kubota 19 HP diesel
	Bobcat™ 250 Diesel	40–250 CC 90–275 CV	H: 33" W: 20" D: 52"	700 lb	11 kW	Kubota 19 HP diesel
	Trailblazer®Pro 350 D	35–250 AC 20–350 DC	H: 30" W: 24" D: 59.5"	998 lb	12 kW	Kubota 26 HP diesel
	PipePro™ 304	5–400 DC	H: 30" W: 24" D: 59.5"	910 lb	12 kW	Kubota 26 HP diesel
	PRO 300	20–410 DC	H: 32" W: 26" D: 56"	1,100 lb	12 kW	CAT 22 HP diesel
	BIG 40®*	20–500 DC	H: 43" W: 28.5" D: 64-7/16"	1,545 lb	5.5 kW 15kW**	CAT 33 HP diesel
	Big Blue® 400	20–500 DC	H: 43" W: 28.5" D: 64-7/16"	1,545 lb	5.5 kW 15 kW**	Perkins 33 HP diesel, Deutz 35 HP diesel
	Big Blue® 500	20–650 DC	H: 43" W: 28.5" D: 64-7/16"	1,785 1,785 1,695 lb	5.5 kW 20 kW**	Turbo Perkins 47 HP Deutz 42 HP Deutz 47 HP diesel
	Big Blue® Turbo	20-750 DC	H: 43" W: 28.5" D: 67.5	1,772 lb	5.5 kW	Turbo Deutz 64 HP diesel
	Miller Du-Op™	15–600 DC	H: 47-5/8" W: 31.25" D: 60.5"	2,005 lb	5.5 kW	Deutz 42 HP diesel
	Big Blue® Air Pak™	20–750 DC	H: 43" W: 28.5" D: 67.5"	1,931 lb	5.5 kW 20 kW**	Turbo Deutz 64 HP diesel

PRODUCT KEY **QUALITY:** ■ **Excellent** ▼ **Good/Fair** (Indicates performance within rated outp

**If using self-shielded wire, use CV weld output.*

*** With appropriate Spectrum plasma cutter.*

Note: Kohler = 11,000 watts, Subaru/Robin = 10,500 watts.

Stick	MIG	AC TIG	DC TIG	Flux Core*	PAC**	CAC-A	Special Features
■			▼				Portable, capable of DC TIG
■			▼		■		Portable, capable of DC TIG
■	▼	▼	■	▼	■		Durable, multi-purpose, 10,000 watts (peak) generator power; capable of MIG applications
■	▼	▼	■	▼	■		Back up power for pivot irrigation.
■	▼	▼	■	■	■	3/16"	For rugged use especially in Stick, FCAW and DC TIG application; 11,000 watts (peak) generator power; capable of MIG applications
■	■		■	■	▼	3/16"	Quiet, low-speed, fuel efficient
■	■		■	■	■	3/16"	Professional's choice for multi-process welding; flawless arc performance; separate power and weld generators
■	■	■	■	■	■	3/16"	Professional's choice for multi-process welding; flawless arc performance; separate power and weld generators
■	■	■	■	■	■	3/16"	Professional's choice for multi-process welding; flawless arc performance; separate power and weld generators
■	▼	▼	■	■	■	3/16"	For rugged use especially in Stick, FCAW and DC TIG application; 11,000 watts (peak) generator power; capable of MIG applications
■	■	■	■	■	■	1/4"	Professional's choice, for multi-process welding with higher outputs
■	■		■	■	■	1/4"	XMT arc quality and reliability within an engine drive unit; can also run as electric unit
■	■		■	■	■	1/4"	Ideal for the independent rig owner or fleet manager who values reliable multiprocess, excellent arc quality, light weight and economy.
■	■	▼	■	■	▼	5/16"	Arc Drive technology for active DIG control in Stick
■	■		■	■	▼	5/16"	Multiple engine and process selections make this ideal choice for construction, offshore and rental
■	■		■	■	▼	3/8"	Multiple engine and process selections make this ideal choice for construction, offshore and rental
■	■		■	■	▼	1/2"	High amp output for heavy-duty Mining and Tank manufactures
■	■		■	■	▼	3/8"	Two operators, one engine - lower costs and maintenance
■	■	■	■	■	■	1/2"	All-in-one welder/generator/air compressor. Mining, railroad

ut range of unit)

Engines and Fuel Economy

When selecting an engine drive, remember that fuel efficiency provides big savings and a fast payback. Miller's fleet of engine drives are the most fuel-efficient models available.

Most engine options that Miller uses are designed for 1800 or 3600 RPMs, both of which have outstanding fuel efficiency compared to competitive products. In fact, Miller's PipePro™ 304, when welding at idle, is the most fuel efficient diesel engine drive welding power source available.

HP and Fuel Efficiency. Compared to some other machines, Miller diesels produce an equivalent weld output using an engine 25 to 30% smaller. This saves you money. In fact, one contractor building a large petrochemical plant with a large fleet of Big Blue engine drives conservatively estimated fuel savings of $3,000 per day.

Most Miller engine drives also feature an automatic idle mode. This lowers RPM levels when no demand is being placed on the machine, saving fuel and reducing noise. So that you can compare cost of operation, Miller now includes a fuel consumption chart on its engine drive spec sheets (for a spec sheet, visit www.MillerWelds.com, call 1-800-4-A-MILLER or see your distributor).

Why buy a GAS or DIESEL Engine?

Gas Advantages

- Lower product cost
- Less weight
- Smaller size
- Easier cold weather starting
- Less expensive engine repairs
- Better engine warranties

Diesel Advantages

- Uses 20 – 35% less fuel
- 1-1/2 to 2 times the engine life
- Required on some job sites

Examples:

Bobcat 250: On a typical job using 1/8 in. 7018 electrodes (125 amps, 40% duty cycle), you can expect to use an average of 0.8 gallons of fuel per hour.

PipePro 304: With its patented weld-at-idle feature while welding at 150 A at 40% duty cycle using 5/32 in. 7018 electrode, the PipePro averaged 0.4 gallons per hour.

Big Blue 400: On a typical job using 5/32 in. 7018 electrodes (150 amps, 40% duty cycle), you can expect to use an average of 0.522 gallons of fuel per hour.

Product Highlights

Blue Star® 145/185

Power and reliability in a compact package. Blue Star's provide class-leading welding and generator power and offers features to increase your productivity and decrease your fuel costs

- Compact and portable
- Class leading welding output
  -145 amps at 25 volts (Blue Star 145)
  -185 amps at 25 volts (Blue Star 185)
- Receptacle covers improve reliability by protecting receptacles from debris.
- Strong Accu-Rated™, not inflated generator power
  -4500 watts of peak power (Blue Star 145)
  -6000 watts of peak power (Blue Star 185)

DX models have:

- 5 gallons fuel capacity
- Auto Idle
- Electric start

Bobcat™ Series

Reliable Bobcat engine-driven welding generators are the industry standard for quality and value. Multiprocess weld output, strong generator power, and most important - #1 in reliability, make the Bobcat the welding industry's most popular choice.

- Exclusive! Super-tough protective armor with covers.
- Receptacle and output stud covers meet/exceed OSHA, CSA, and CE requirements for job site safety.
- Increased fuel capacity to 12 gallons means many hours of run time before refueling.
- Accu-Rated™ 10,500/11,000 watts of usable peak power
- Revolutionary ten-degree skewed-rotor design found in the Bobcats optimizes generator performance for smoother power—not spiked power found with other brands. Better power—better performance.

Bobcat™ 250 only

- Fully enclosed case provides reduced sound levels, fully-protected engine, and utilizes the same hole-mounting pattern as past models.
- Tri-Cor™ technology provides improved Stick arc performance with 7018 electrodes.

Bobcat™ 3 Phase

- Same features as Bobcat 225 Plus
- 11,000 watts (peak) of Accu-Rated™, 480 V, 3-phase power for running pivot irrigation systems, or emergency backup power for milking pumps and other motors.

Miller Legend® 302

Low RPM generator power and weld speeds make this air-cooled engine drive unique. Great for service/maintenance trucks, in-plant use, and construction (especially in residential areas).

- 1800 RPM generator power uses up to 50% less fuel and produces 1/4 of the noise.
- Multispeed weld output produces up to 220 amps at 3000 RPMS for reduced noise and up to 300 amps at 3600 RPMS for large diameter wires or CAC-A.
- Premium multiprocess weld performance.

Trailblazer® 302 & 275 DC

The Professional Welder's Choice - designed with the professional in mind, the Trailblazer Series has the best welding arc in its class!

- Exclusive! Trailblazers are the only machines in the industry that utilize a 4-pole, 3-phase generator to produce the best welding arc and have a separate 11,000 watt power generator - no interaction.
- Fully enclosed case provides reduced sound levels, fully protected engine, and utilizes the same hole mounting pattern as past models.
- Accu-Rated™ 11,000 watts of usable peak power
- Increased fuel capacity to 12 gallons
- Exclusive! Super-tough Protective Armor with receptacle and output stud covers.
- Digital meters with SunVision™.
- Four preset DIG settings
- Lift-Arc™/Scratch Start TIG

Note: Kohler = 11,000 watts, Subaru/Robin = 10,500 watts.

Trailblazer®Pro 350 D

Same premium Trailblazer arc, more power

- 350 amp weld output
- Runs 1/4 in. Stick rods and carbons, 1/4 in. cored wires
- Arc-Drive for E6010 pipe welding
- Designed for the professional

12,000 watts generator power

- Voltage-regulated for constant 120/240 V
- Excellent motor starting
- Compact and lightweight (1,029 lbs)

PipePro™ 304

World's first engine-driven inverter

- Unbeatable arc in all DC weld processes
- The new standard for downhill pipe welding
- Most compact engine drive in its class
- 12,000 watts generator power

Dual Power option allows you to operate on engine OR electric input power

Welds to 200 amps at idle and automatically switches to high speed for more power without any arc change

Miller Du-Op™

Dual operator welding machine

- Two independently controlled arcs
- Reduces number of machines on jobsite
- Decreases transportation, maintenance costs
- Multi-process capabilities
- Includes adjustable DIG and digital weld meters

BIG 40® Diesel

Powered by CATERPILLAR 3024C diesel engine

Excellent Stick/TIG/MIG machine

- Arc-Drive for E6010 pipe welding
- Uncompromised 7018 performance
- Factory option AC/DC polarity switch provides 350 amps of AC weld power for TIG welding aluminum

Best reliability and simple-to-use

PRO 300

Ideal for the independent rig owner or fleet manager who values reliability, multiprocess, excellent arc quality. Lightweight and economy.

- Caterpillar diesel engine
- Digital weld meters
- Quiet 69dBA@23 ft
- 1800 RPM engine for longevity
- Compact 32 x 26 x 56, 1100 lbs
- Ideal for pipe welding
- Economically priced.

Big Blue® 400 and 500

Excellent Stick/TIG machines

- Arc-Drive for E6010 pipe welding
- Uncompromised 7018 performance

CV option for superior flux cored welding performance

Generator power options up to 20 kW

Best reliability, simple-to-use

- 1000 hours between oil changes on Deutz 2011 engines
- 10,000 hours before first basic overhaul
- 25 gallon fuel tank

Environmental stainless steel model available on the Big Blue 500 — for corrosion resistance in the most caustic environments

Big Blue® Turbo

High altitude, high output multiprocess welder provides a superior arc.

- Deutz turbocharged four-cylinder diesel engine provides ample power at high altitudes.
- 600 amp/44 volts 100% duty cycle
- Quiet — at only 70 dB (95 Lwa) when idle, 79 dB (104 Lwa) at maximum output. Improves work site communications.
- Hot Start™ provides positive stick electrode starts to make it easy to start all types of electrodes.
- Arc-Drive makes welding easy. Automatically enhances Stick welding, especially on pipe, by focusing the arc and preventing the electrode from going out.

Big Blue® Air Pak™

World's most powerful, reliable welder/generator/air compressor

- A go anywhere solution to field jobs requiring welding, gouging or cutting, and AC power generation
- 600 amps/44 volts at 40% Duty Cycle
- Excellent arc performance in all processes

Built-in Ingersoll-Rand air compressor

- Produces 100 PSI at 60 CFM, 100% Duty Cycle
- Independent compressor controls, on/off switch for applications not requiring air

For detailed literature, a full-line catalog or to locate your nearest distributor, call 1-800-4-A-MILLER (1-800-426-4553)

For detailed specification sheets or to locate your nearest Miller distributor, call:

1-800-4-A-Miller
(1-800-426-4553)

www.MillerWelds.com