

ENGINE DRIVEN GENERATOR WELDER

RazorWeld
MINE SPEC 500



The UNIMIG Mine Spec 500 is a powerful Multifunction Diesel Generator/Welder designed for the Mining and Construction Industries. The MS 500 delivers value for money with high duty cycle performance of 500amps @60% duty cycle, 20kVA auxiliary AC power with both 240V and 415V outlets and the latest safety features. Your investment and reliability is guaranteed with low RPM Perkins diesel engine, Stamford generator and Yunda DC welding inverter.

Welding Performance

The advanced technology Yunda DC inverter delivers superior welding performance with easy arc striking, smooth arc characteristics, low spatter and excellent weld appearance. Reliability is assured with all printed circuit boards potted in resin and encapsulated to prevent exposure to harmful environments.

The UNIMIG MS 500 features five process modes and is supplied with digital volt/amp meters.

- MMA
- MMA Cellulosic
- Air Arc Gouging
- DC TIG
- MIG / Constant Voltage Wire

MMA is optimised for General Purpose and Low Hydrogen MMA electrode welding.


MMA Cellulosic is optimised for Cellulosic MMA electrode welding.


Hot Start and Arc Force can be adjusted whilst welding in either MMA or MMA Cellulosic modes.


Air Arc Gouging is optimised to run up to 8mm carbon rods and Strike and Re Strike performance is enhanced by optimising waveform design and VRD response time.

DC TIG welding with Lift Arc ignition and gas solenoid valve for optimal control and minimal gas loss. Constant Voltage Wire is optimised with adjustable inductance for running flux cored wires.

MIG welding with the unique RWS wire feeder, makes it possible to weld Pulse MIG, Double Pulse MIG, Synergic MIG, Manual MIG and MMA from wire feeder.

 STICK	AMPERAGE RANGE	30-500 A/21.2-40 V	
	DUTY CYCLE X	60%	100%
DC	RATED CURRENT	500A	387A
	RATED VOLTAGE	40V	35.5V
	OCV / VRD	75V / 10V	

 TIG	AMPERAGE RANGE	30-500A/11.2-30V	
	DUTY CYCLE X	60%	100%
DC	RATED CURRENT	500A	387A
	RATED VOLTAGE	30V	25.5V
	OCV / VRD	75V / 10V	

 MIG	VOLTAGE RANGE	15.5-40V/30-500A	
	DUTY CYCLE X	60%	100%
DC	RATED CURRENT	500A	387A
	RATED VOLTAGE	39V	34V
	OCV	75V	

Mine Specification Safety Features

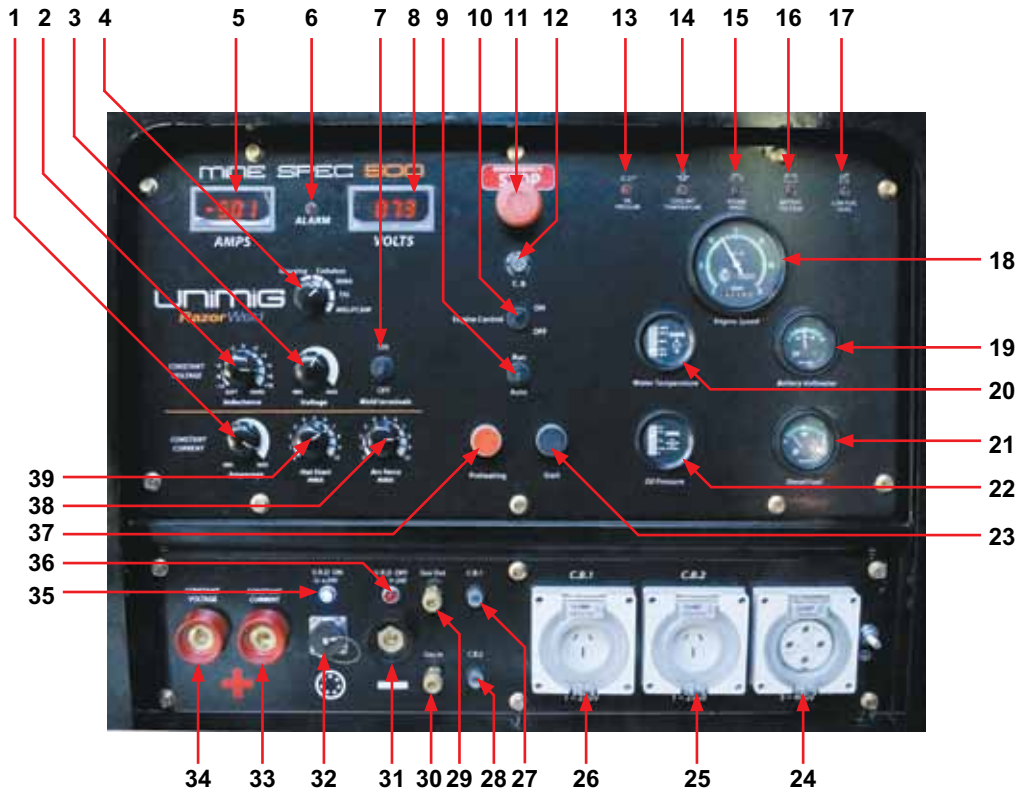
- Emergency engine stop button located at eye level to quickly shut MS500 down in case of emergency.
- VRD Voltage Reduction Device lowers the voltage in CC MMA and CC air arc gouging modes to below 12 volts in less than 300 milliseconds.
- Output at welding terminals controlled by electronic contactor, that can be switched on or off.
- Welding outlets can be isolated by lockable cover.
- Lockable dual pole battery isolation selector for safer maintenance, **note: can only be locked in off position.**
- RCD protection for auxiliary AC power outlets.
- Auxiliary AC power with two 240 Volt single phase and one 415Volt IP66 rated outlets can also be isolated electrically by switching off circuit breakers behind bolted panel.
- Auxiliary power outlets can be isolated by lockable cover.
- AC All wiring looms are encased in conduit with rubber boots fitted to avoid mechanical wear and damage.
- Drip tray supplied that will contain all liquids used in engine.
- IP23 case enclosure.



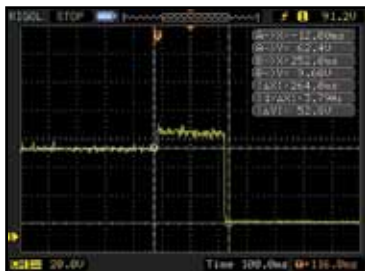
Engine is warranted separately by the manufacturer

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|---|---|
| <ul style="list-style-type: none"> 1 Constant Current output control dial 2 Inductance control dial 3 Voltage output control dial 4 Weld mode selector switch 5 Amp meter 6 Warning alarm 7 Weld terminals ON/OFF switch 8 Volt meter 9 Engine RUN/AUTO selector switch 10 Engine control ON/OFF selector switch 11 Emergency stop button 12 Resettable circuit breaker (engine) 13 Oil pressure warning light 14 Coolant temperature warning light 15 Engine Speed warning light 16 Battery voltage warning light 17 Low fuel level warning light 18 Engine speed tacometer gauge 19 Battery volt meter gauge 20 water temperature gauge | <ul style="list-style-type: none"> 21 Diesel fuel gauge 22 Oil pressure gauge 23 Engine start button 24 415 Volt three phase outlet - 32mp 25 240 Volt single phase outlet - 15amp 26 240 Volt single phase outlet - 15amp 27 Resettable circuit breaker (240 volts) 28 Resettable circuit breaker (240 volts) 29 Quick connector gas out (TIG welding) 30 Quick connector gas in (TIG welding) 31 Negative welding output terminal 32 Remote control connector 33 Positive welding output terminal constant current 34 Positive welding output terminal constant voltage 35 VRD on indicator light 36 VRD off indicator light 37 Engine pre heating select button 38 Arc force selector dial (MMA) 39 Hot start selector dial (MMA) |
|---|---|



VRD Voltage Reduction Device lowers the voltage in CC MMA and CC air arc gouging modes to below 12 volts in less than 300 milliseconds.



Lockable dual pole battery isolation selector for safer maintenance
note: can only be locked in off position.


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Generator Performance

20KVA of auxiliary AC power with two 240 Volt single phase and one 415Volt three phase. IP66 rated outlets allows the operator flexibility to run multiple welding power sources or electric power tools simultaneously.

 AC Generator	Frequency	50Hz	
		1 ~	3 ~
	PEAK KW	7.5KW	24KW
	RATED KW	6.9KW	20KW
	RATED VOLTAGE	230V	400/415V
	RATED CURRENT	20A	29A

WELDING AMPERES	TOTAL POWER	1~/230V AMPERES	3~/415V AMPERES
500A	0W	0A	0A
400A	3000W	13A	4.3A
300A	6000W	26A	13A
200A	6000W	26A	20A
100A	6000W	26A	24.5A
0A	6900W	30A	30A



RCD protection for all high voltage circuits



Both welding and auxiliary power outlets can be isolated both electrically and mechanically using lockable doors.




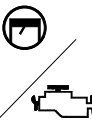
AC All wiring looms are encased in conduit with rubber boots fitted to avoid mechanical wear and damage.

Perkins Engine Features

Perkins model 1103A-33G is a naturally aspirated, Low RPM three cylinder diesel delivering 41.6 horsepower maximum and featuring

- Automatic engine idle for reduced wear, fuel economy and noise minimisation.
- Full engine instrumentation including fuel level, oil pressure, engine temperature and hour meter.
- 65 litre fuel tank for 9.5 hours running at maximum RPM.
- Lockable fuel tank.
- Sound rating no load 76dBA @ 7 metres, loaded 80dBA @ 7 metres

 Fuel Economy	500A or 20KW	6.4LPH
	400A	5.2LPH
	300A	3.8LPH
	200A	3.0LPH
	100A	2.3LPH
	NO LOAD RUN	1.6LPH

 Diesel Engine	MODEL	PERKINS 1103A-33G
	ENGINE SPEC.	DJ51279
	RATED OUTPUT	28.4KW/1500RPM
	DISPLACEMENT	3.3L
	CYLINDERS	3
	FUEL CAPACITY	65L
	RATED LOADSPEED	1500RPM
	IDLE SPEED	1150RPM

T&R RWS Wire Feed System

The RWS is an innovative welding system, developed to solve the problems of welding in critical environments. It is a complete digitally controlled generator for high-performance welding making it possible to weld Pulse MIG, Double Pulse MIG, Synergic MIG, Manual MIG and MMA. For its operation, it can be connected to any suitable DC power source capable of supplying a minimum of 35Vdc up to a maximum of 110Vdc.

The RWS wire feeder whilst only drawing 180Amps from the power source, delivers 350Amps output at a duty cycle of 40%. The 500Amp output of the MS 500 generator welder allows for two RWS wire feeders to be connected and operated simultaneously both wire feeders delivering 350Amps @ 40% duty cycle each in both MIG or MMA processes.

The low voltage input minimum of 35Vdc up to a maximum of 110Vdc power supply to RWS wire feeder means that using a 50mm welding cable it is possible to locate the RWS wire feeder at a distance of 150 meters from the DC generator, and all without compromising the welding performance of the system.

The system is powered by low voltage, this gives greater safety to the working environment, making it ideal for working outdoors, or on metal structures such as ship building. The single low voltage input welding cable is a great safety advantage compared to running multiple machines with high voltage input cables. The RWS wire feeder is supplied with a digital MIG torch allowing adjustment of ARC length and Amperage from the torch, It can also be used with a standard MIG torch, and is ready to be connected with push pull torch. Additional controls included are:

- Digital control of gas flow
- Storing of 6 different "job" working parameters for each program.
- Auxiliary output for tractor carriage and push pull torch.
- VRD Voltage Reduction Device.

please note: (RWS system does not work with electrode negative therefore if you want to weld with gasless wire a voltage sensing wire feeder must be used.)

