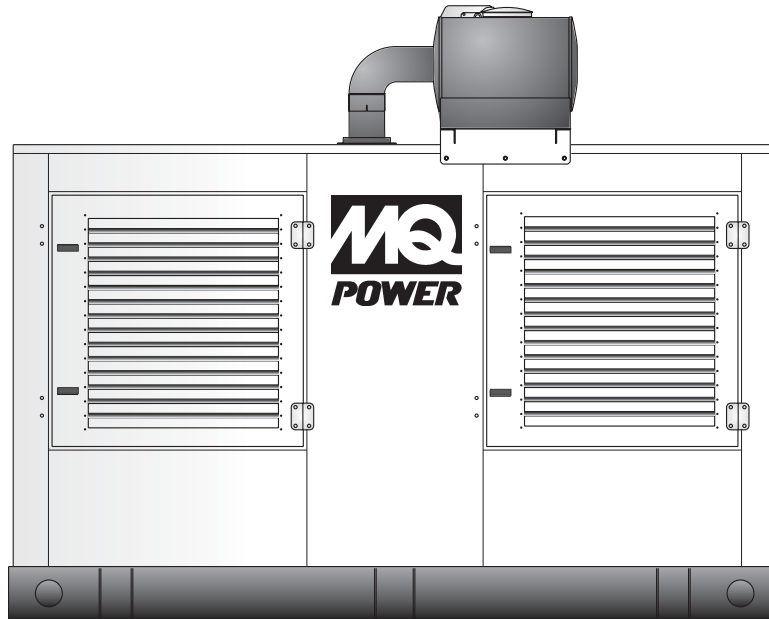




500kW Diesel On-Site Power Industrial Generator

Model	Emissions	Standby Rating	Prime Rating
MQP500VO	EPA-Certified	60 Hertz	
		500kW (625kVA)	450kW (562.5kVA)



Standard Features

Heavy Duty Engine

- Heavy duty, 4-cycle, diesel engine; direct injection.
- Electronic speed control governor.
- Meets EPA Tier 2 emissions standards.

Alternator

- Brushless, 4-pole, synchronous, 12 lead design.
- Temperature rise standards meets Class H insulation system.

Electronic Voltage Regulator

- Encapsulated electronic voltage regulator precisely regulates the current into the exciter field.
- Voltage regulation of $\pm 1.0\%$ no load to full load.

Full Load Acceptance

- Accepts 100% of standby nameplate rating in one step, in compliance with NFPA, para 5-13.2.6.

Cooling System

- Closed circuit, pressurized system with ambient temperature rating of 40°C (104°F).
- Low coolant shutdown safety.

Generator Control Panel

- MEC 20™ microprocessor-based, digital control panel; vibration isolated and NFPA110 compliant.
- Liquid crystal display screen with alphanumeric readout for display and programming.
- Self-diagnostic feature continuously verifies processing, memory circuits and input/output.

Skid and Housing

- Generator available as skid-mount or sub-base tank mount design.
- Integral vibration isolators.
- Outdoor weather-protective or sound-attenuated housings.
- Steel battery rack and battery cables.

Warranty

- Engine-generator sets are covered by an express written 2-year/2000 hour (whichever occurs first) limited warranty.
- Optional extended warranties available.

Agency Approval

- UL2200 - File No. AU3588.



500kW Diesel On-Site Power Industrial Generator

Alternator Specifications	
Manufacturer/Model	Marathon / 572RSL4027
Type	4-Pole, Rotating Field
Exciter Type	Brushless, PMG
Number of Leads	12 Lead, Reconnectable
Voltage Regulator	DVR2000, Solid State, Volts-per-Hertz
Insulation	NEMA MG1-1.66
Material	Class H
Temperature Rise	125°C, Standby Rating
Bearing, Number, Type	Single, Sealed
Coupling	Flexible Disk Type
Amortisseur Windings	Full
Cooling Air Volume	1520 cfm
Voltage Regulation (no load to full load)	±1%
Single Step Load Acceptance per NFPA 110	100% of Rating

Engine Specifications	
Manufacturer/Model	Volvo / TAD1641GE
Type	4-cycle, turbocharged, air to air intercooled
Cylinder Arrangement	6 In-Line
Displacement	984 in ³ (16.12L)
Bore	5.67 in. (144mm)
Stroke	6.50 in. (165mm)
Compression Ratio	16.5 : 1
Piston Speed	32.5 ft./sec. (9.9m/sec)
Cylinder Block	Cast iron with wet, replaceable liners
Cylinder Head	Cast iron
Crankshaft	Forged steel; 7-main bearings
Brake Mean Effective Pressure (BMEP)	339 psi (2.3 Mpa)
Rated RPM	1800 RPM
Max. Power At Rated RPM (with fan)	743 hp (546 kW)
Governor: Type; Make/Model	Electronic, Volvo/EMS 2
Frequency Regulation: No load to full load	Isochronous under varying loads from no load to 100% rated load
Frequency Regulation: Steady State	±0.25% of mean value for constant loads from no load to full load
Air Cleaner Type	Single stage replacement paper cartridge

Rating Guidelines

STANDBY POWER: Rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying standby electrical power at variable load in areas with well established electrical networks in the event of normal utility power failure. No overload capability is available for this rating.

PRIME POWER: Rating corresponds to ISO Standard Power for continuous operation. It is applicable for supplying electrical power at variable load for an unlimited number of hours instead of commercially purchased power. A 10% overload capability is available for this rating.

SINGLE PHASE OUTPUT: Broad range alternators can supply single phase output up to 2/3 set rated 3-phase kW at 1.0 P.F. Refer to Amperage chart.

Amperage			
Voltage	Phase	Wire	Amperage
120/208 Volt	3	4	1648
120/240 Volt	3	4	1428
277/480 Volt	3	4	752

Fuel System	
Fuel Injection Pump Make	Delphi E1
Recommended Fuel	ASTM-D975/No.1-D & No.2-D
Feed Pump Maximum Suction Head	9.8 feet (3 meter)
Fuel Filters	Replaceable Primary/Secondary
Maximum Fuel Flow	50 gal/hr (190 L/hr)
Fuel Consumption	
Diesel Fuel At % of Load	gal/hr (L/hr)
100%	35.6 (134.7)
75%	25.8 (97.6)
50%	17.3 (65.4)
25%	9.9 (37.0)

Engine Electrical System	
Battery Charging Alternator - Make	Bosch
Ground Type	Negative
Volts (DC)	24VDC
Ampere Rating	80A
Starter Motor Make/Model	Melco 105P70
Starter Motor Rated Voltage	24VDC
Starter Motor Battery Capacity	2 x 225 Ah Max.



500kW Diesel On-Site Power Industrial Generator

Lubrication System

Type	Full Pressure System
System Capacity - Less Filters	10.8 gallons (41 liters)
System Capacity - With Filters	12.7 gallons (48 liters)
Oil Filter	Full flow disposable spin-on
Oil Pressure At Rated Speed	44-94psi (300-650kPa)
Maximum Oil Temperature	266°F (130°C)

Cooling System

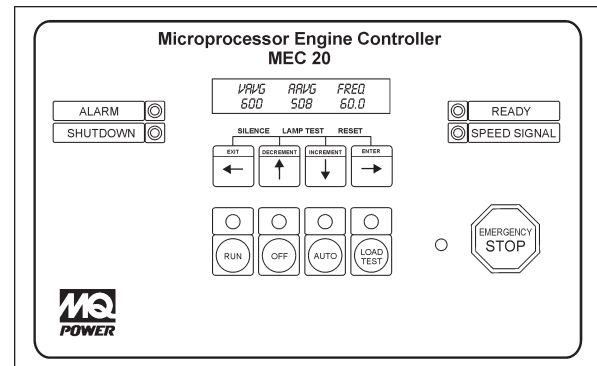
Exhaust Manifold Type	Dry
Radiator Design	Horizontal discharge
Ambient Temperature Rating	104°F (40°C)
Coolant Capacity - Engine Only	8.7 gallons (33 L)
Coolant Capacity - with Radiator	15.8 gallons (60 L)
Water Pump Design/Type	Gear driven, Centrifugal
Coolant Flow	122.4 gal/min (463 L/min)
Radiator Cooling Air	14620 cfm (414 m³/min)
Heat Rejection To Coolant	13137 Btu/min (230 kW)
Heat Rejection From Engine	1365 Btu/min (23.9 kW)
Fan Diameter	35 in. (890 mm)
Fan Horsepower	19 hp (26 kW)
High Water Temperature Indication	217°F (103°C)
Pressure Cap Setting	10.8 psi (75 kPa)

Exhaust System

Exhaust Flow at Rated kW	3899 cfm (110.4 m³/min)
Exhaust Temperature at Rated kW	893°F (479°C)
Maximum Allowable Backpressure	40.1 in/H ₂ O (10 kPa)
Heat Rejection To Exhaust	25136 Btu/min (442 kW)

Derating Factors

Derating Factors	Altitude	Ambient Temperature
The engine may be operated up to 1000m altitude and 40°C ambient temperature at the Standby rating, without derating. For operation at higher altitudes and ambient temperatures, the power should be derated according to the following factors:	<3000m=4%/500m	1.5%/5°C>40°C
	>3000m=6%/500m	



GENERATOR CONTROLLER

- MEC 20™ microprocessor-based digital generator controller.
- 12 or 24 Volt DC compatible.
- Meets all NFPA 110 requirements for emergency power systems Level I installations.
- Backlit LCD display screen with alphanumeric readout.
- Front panel keypad provides password protected programming.
- Self diagnostic features continuously verify processing, input/output and memory circuits.
- Metering accurate to ±1% within temperature range of 0°C to +50°C.
- EMI/RFI noise immunity and surge performance per IEEE C62.41.
- Certified to UL508 and CSA 22.2 #14 Industrial Control Equipment Standards.

Standard Controller Features

AC Metering Display:

- Voltage/Amperage/ Frequency
- Generator Phase Voltage / Current
- Generator Frequency

Engine Information Display:

- Engine Temperature / Oil Pressure (psi)
- Battery Voltage (DC) / Tachometer
- Hourmeter

Minor Fault Warning Display:

- Switch Not In Auto
- Low Fuel Level
- Low Oil Pressure Alarm
- Low Engine Temperature
- High Engine Temperature Alarm
- Low Battery Voltage
- High Battery Voltage
- Weak Battery Condition
- Battery Charger Input Fail
- Undervoltage
- Over / Underfrequency
- Overcurrent

Major Fault Shutdown Display:

- Overvoltage
- Emergency Stop
- Loss Of Speed
- Overcrank
- Overspeed
- Low Oil Pressure
- High Engine Temperature
- Low Coolant Level
- Spare Programmable Digital Faults

Switches And Operating Controls:

- Run / Off / Auto / Load Test Buttons
- Decrement / Increment / Previous (Exit) /Next (Enter) Program Buttons
- Emergency Stop Button
- Audible Alarm Horn – 80 dB(A) at 2 ft.
- Alarm Horn Silence Button
- Lamp Test Button
- Fault Reset Function

- RJ45 Remote Communications, External Expansion Module Ports

Timer Countdown Display:

- Engine Start Delay
- Oil Bypass
- Overcrank
- Cycle Crank
- Starter Re-engage Delay
- Bypass Delay

Control LED Indicators:

- Switch Position (Run,Off,Auto,Test)
- Common Alarm (Minor Fault)
- Common Shutdown (Major Fault)
- Generator Ready (When in Auto)
- Speed Signal
- Emergency Stop

Diagnostic LED Indicators:

- Run Output Energized
- Crank Output Energized
- Remote Start Signal Initiated
- Common Fail Output Energized
- Watchdog - CPU Running
- Programmable Output Contacts



500kW Diesel On-Site Power Industrial Generator

Generator Set Options

Alternator

- Generator Strip Heater

Control Panel

- Remote Monitoring and Generator Network Communications Link
- Voltage Adjusting Rheostat
- Frequency Adjust Potentiometer

Engine

- Engine Crankcase Ventilation Filter

Enclosed Unit

- Outdoor Weather-protective Housing
- Outdoor Sound-Attenuated Housing
- Critical Grade Exhaust Silencer
- Exhaust Mounting Package
- Rain Cap

Open Unit

- Critical Exhaust Silencer
- Exhaust Mounting Package

Electrical System

- Battery
- Environmental Plastic Battery Box with Lid
- Battery Charger, Equalize/Float Type 3.5 Amperes
- Battery Charger w/Alarms, Equalize/Float Type, 10 Amperes

Fuel System

- Fuel/Water Separator
- Sub-base Fuel Tank (12-hr / 442 gal), Double Wall, UL142
- Sub-base Fuel Tank (24-hr / 884 gal), Double Wall, UL142

Cooling System

- Coolant Heater
- Radiator Duct Flange

Miscellaneous

- Main Line Circuit Breaker
 - 120/208 Volt, 3 Phase, 3 Pole
 - 120/240 Volt, 3 Phase, Delta, 3 Pole
 - 139/240 Volt, 3 Phase, 3 Pole
 - 277/480 Volt, 3 Phase, 3 Pole
- Main Line Circuit Breaker Options
 - Auxiliary Contacts
 - DC Shunt Trip
- Remote Annunciator Panel
- Remote Emergency Stop Kit
- Vibration Isolators, Spring Type
- 5-Year Extended Warranty

Automatic Transfer Switch

- Amperage _____
- No. Poles _____
- Type Enclosure _____
- Options _____

Weights and Dimensions

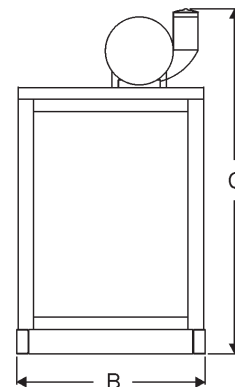
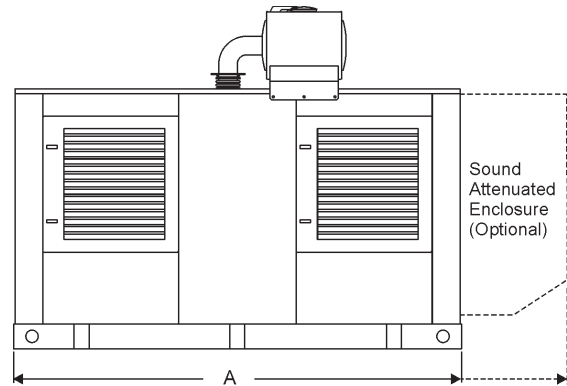
Housing Options	A	B	C		
			Skid-mount	12hr fuel tank*	24hr fuel tank*
Open Genset	145.00 in. (3,683 mm)	61.00 in. (1,549 mm)	78.3 in. (1,991 mm)	94.3 in. (2,395 mm)	106.3 in. (2,700 mm)
	Weight		6,307 lbs (2,863 kg)	7,885 lbs (3,579 kg)	8,935 lbs (4,056 kg)
Standard	145.00 in. (3,683 mm)	61.00 in. (1,549 mm)	111.6 in. (2,835 mm)	127.6 in. (3,241 mm)	139.6 in. (3,546 mm)
	Weight		7,387 lbs (3,351 kg)	8,965 lbs (4,070 kg)	10,015 lbs (4,546 kg)
Sound Attenuated	184.00 in. (4,675 mm)	61.00 in. (1,549 mm)	112.3 in. (2,851 mm)	128.3 in. (3,256 mm)	140.3 in. (3,562 mm)
	Weight		7,687 lbs (3,490 kg)	9,265 lbs (4,206 kg)	10,315 lbs (4,683 kg)

* Optional

NOTE: Weights are approximate and based on dry gensets with standard equipment. The total weight may vary according to fluid additions and/or optional equipment ordered with the unit.

Backfeed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device. Specifications are subject to change without notice.

Your MQ Power dealer is:



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