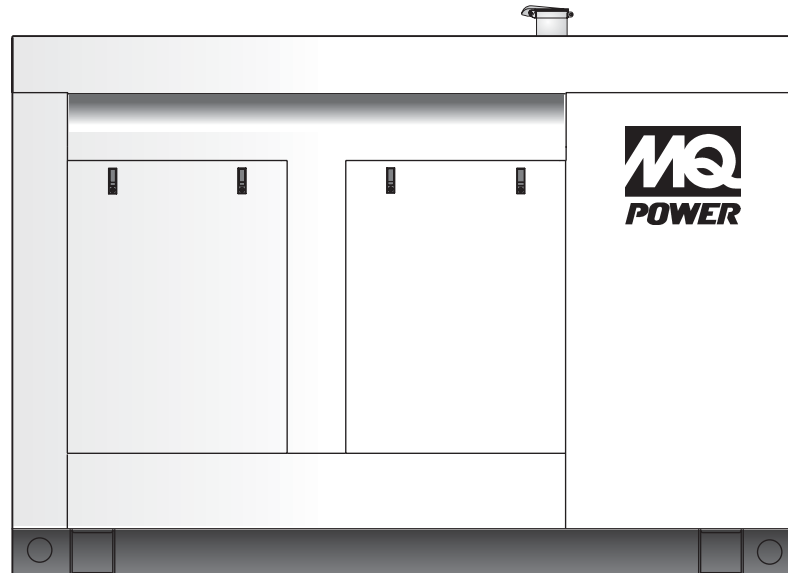




100kW Diesel On-Site Power Industrial Generator

Model	Emissions	Standby Rating	Prime Rating
MQP100IV	EPA Certified	60 Hertz	
		100kW (125kVA)	90kW (112.5kVA)



Standard Features

Heavy Duty Engine

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

Alternator

- Brushless, 4-pole, synchronous, 12 lead design.
- Compliant with NEMA MG1-22, BS5000, CSA-C22-2, IEC-34-1 standards for temperature rise.
- Sustained short-circuit capability allowing downstream coordination breakers to trip without collapsing the generator field.
- Drip-proof, self-venting, amortisseur windings.
- Epoxy impregnated windings with tropical insulation for increased environmental protection and long life.
- Exceptional waveshape and voltage balance; 2/3 pitch winding to minimize harmonic distortion.

Electronic Voltage Regulator

- Encapsulated electronic voltage regulator precisely regulates the current into the exciter field.
- Solid-state, 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 50°C (122°F).

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 housing or sound-attenuated housing designs.

Warranty

- Engine-generator sets are covered by an express written 2-year limited warranty.
- Optional extended warranties available.



100kW Diesel On-Site Power Industrial Generator

Alternator Specifications	Standard 3-Phase Generator	Optional Full-Output 1-Phase Generator
Manufacturer/Model	Marathon, 362PSL1606	Marathon, 363PSL1617
Type	4-Pole, Rotating Field	4-Pole Rotating Field
Exciter Type	Brushless, Shunt Excitation	Brushless, Shunt Excitation
Number of Leads	12 Lead, Broad Range, Reconnectable	4 leads
Voltage Regulator	SE350, Solid State, Volts-per-Hertz	SE350
Insulation	NEMA MGI-1.66	NEMA MG1-1.66
Material	Class H	Class H
Temperature	125°C, Standby Rating	125°C, Standby Rating
Bearing, Type	Single, Sealed	Single, Sealed
Coupling	Flexible Disk Type	Flexible Disk type
Cooling Air Volume	700 cfm	700 cfm
Amortisseur Windings	Full	Full
Voltage Regulation (no load to full load)	±1%	± 1%
Single Step Load Acceptance per NFPA 110	100% of Rating	100% of Rating

Engine Specifications

Manufacturer/Model	Iveco Motors / NEF45 TM2*
Type	4-cycle, direct injection, turbocharged, aftercooled
Cylinder Arrangement	4 in-line
Displacement	275 in ³ (4.5 liter)
Bore	4.09 in. (104 mm)
Stroke	5.19 in (132 mm)
Compression Ratio	17.5:1
Cylinder Block	Cast Iron
Cylinder Head	Cast Iron
Mean Piston Speed	7.9 m/s
Brake Mean Effective Pressure (BMEP)	236.3 psi (1629.6 kPa)
Rated RPM	1800 RPM
Max. Power @ Rated RPM	143.8 hp (103 kW)
Governor Type	Electronic
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	Dry

* EPA engine model number F4GE0485C

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 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	347
120/240 Volt	3	4	301
277/480 Volt	3	4	150
120/240 Volt	1	3	417

Fuel System

Fuel Injection Pump Type	Standadyne
Recommended Fuel	ASTM-D975/No.1-D & No.2-D
Feed Pump Maximum Suction Head	10 ft. (3 m)
Fuel Filter	Spin-on, Filter/Water Separator
Maximum Fuel Flow	23.7 gal/hr (90 L/hr)
Fuel Consumption	
Diesel Fuel At % of Load (Standby)	gal/hr (L/hr)
100%	7.6 (28.7)
75%	5.7 (21.5)
50%	4.0 (15.1)
25%	2.4 (9.0)

Engine Electrical System

Battery Charging Alternator - Make	Bosch
Ground Type	Negative
Volts (DC)	12VDC
Ampere Rating	90A
Starter Motor Make/Model	Bosch
Starter Motor Rated Voltage	12VDC
Starter Battery Capacity	1 x 100 Ah



100kW Diesel On-Site Power Industrial Generator

Lubrication System

Type	Gear Driven
System Capacity - Less Filter	2.2 gal (8.5L)
System Capacity - With Filter	3.4 gal (12.8 L)
Oil Filter	Full flow disposable
Oil Pressure At Rated Speed	300-500 kPa
Maximum Oil Temperature	248°F (120°C)

Cooling System

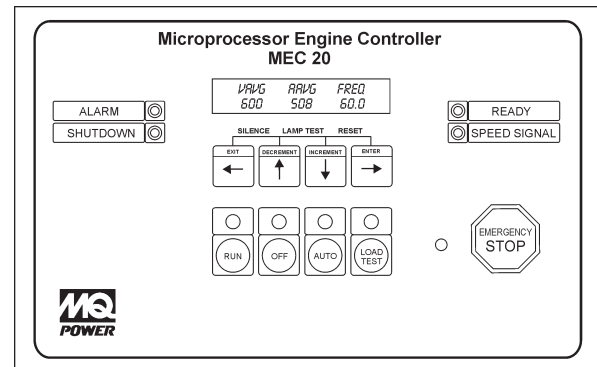
Type	Liquid
Radiator Design	Horizontal Discharge
Ambient Temperature Rating	122°F (50°C)
Coolant Capacity - Engine Only	2.2 gal (8.5 L)
Coolant Capacity - with Radiator	4.9 gal (18.5 L)
Water Pump Design/Type	Belt Driven, Centrifugal Vane
Coolant Flow	27 gal/min (102 L/min)
Radiator Cooling Air	6356 cfm (179 m³/min)
Heat Rejection From Engine	480 Btu/min (8.4 kW)
Heat Rejection To Coolant	2333 Btu/min (40.9 kW)
Fan Diameter	19.6 in. (500 mm)
Fan Horsepower	4.1 hp (3.1 kW)
High Water Temperature Indication	217°F (103°C)
Pressure Cap Setting	10.1 psi (70 kPa)

Exhaust System

Exhaust Flow at Rated kW	782 cfm (22.1 m³/min)
Exhaust Temperature at Rated kW	887°F (475°C)
Maximum Allowable Backpressure	20 in/H ₂ O (5 kPa)
Heat Rejection To Exhaust	4343 Btu/min (127 kW)

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:	>1000<3000m %/500m - 3%	> 40°C %/5°C - 2%
	>3000m %/500m - 6%	



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



100kW Diesel On-Site Power Industrial Generator

Generator Set Options

Alternator

- Generator Strip Heater
- Permanent Magnet Generator (PMG)

Control Panel

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

Engine

- Engine Crankcase Ventilation Filter (STD)

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

- Sub-base Fuel Tank (12-hr / 100 gal), Double Wall, UL142
- Sub-base Fuel Tank (24-hr / 200 gal), Double Wall, UL142

Cooling System

- Coolant Heater
- Low Coolant Shutdown Safety
- 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
 - 120/240 Volt, 1 Phase, 2 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

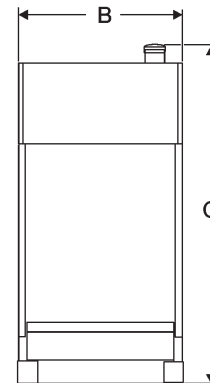
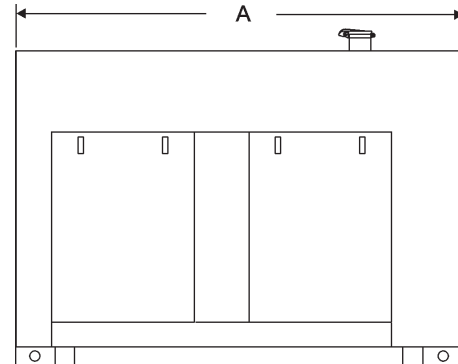
Housing Options	A	B	C		
			Skid-mount	12hr fuel tank*	24hr fuel tank*
Open Genset	116 in. (2,946 mm)	48 in. (1,219 mm)	56.8 in. (1,442 mm)	64.8 in. (1,646 mm)	76.8 in. (1,950 mm)
	Weight		2,360 lbs (1,070 kg)	2,875 lbs (1,304 kg)	3,175 lbs (1,440 kg)
Standard	116 in. (2,946 mm)	48 in. (1,219 mm)	69.0 in. (1,752 mm)	77.0 in. (1,955 mm)	89 in. (2,260 mm)
	Weight		2,995 lbs (1,358 kg)	3,510 lbs (1,592 kg)	3,810 lbs (1,728 kg)
Sound Attenuated	116 in. (2,946 mm)	48 in. (1,219 mm)	69.0 in. (1,752 mm)	77.0 in. (1,955 mm)	89 in. (2,260 mm)
	Weight		3,050 lbs (1,383 kg)	3,565 lbs (1,617 kg)	3,865 lbs (1,753 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.

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