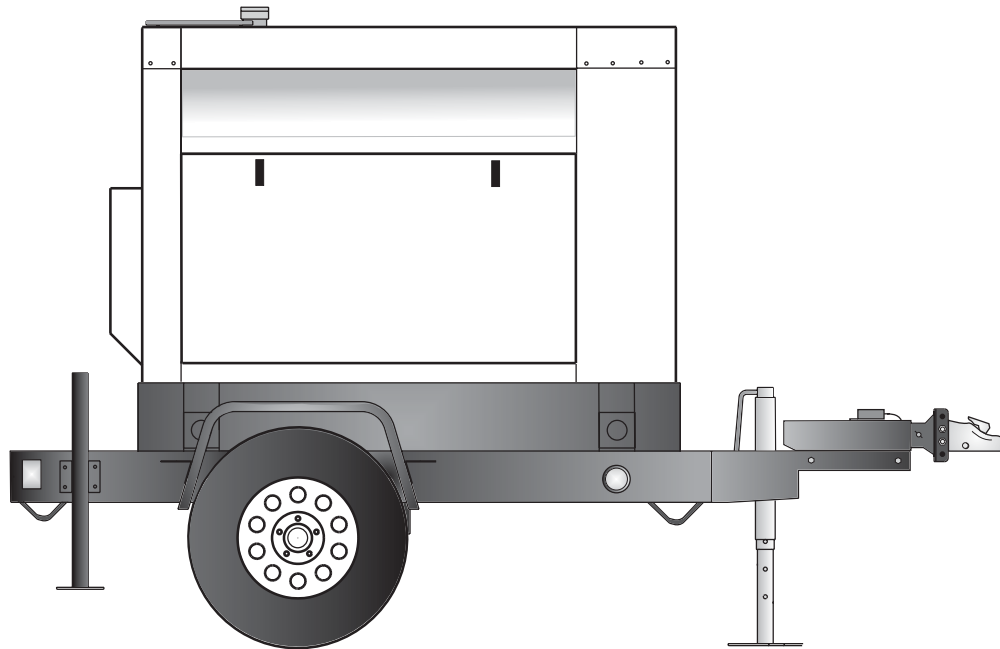




MQP20IZM 20kW Generator

On-Site Power Industrial Generator Set 20kW Diesel

Model	Emissions	Standby Rating	Prime Rating
MQP20IZM	EPA Certified	60 Hertz	60 Hertz
		20 kW (20 kVA)	18 kW (18 kVA)



Heavy Duty Engine

- Heavy duty, 4-cycle, diesel engine; naturally aspirated, overhead valves, indirect injection.
- Manual speed control governor.
- Meets EPA emissions standards for mobile off-highway.

Alternator

- Full output, single phase 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.

Output Terminals

- Two 80 amp output terminal lugs, one neutral and one ground lug.
- Two 50 amp twistlock receptacles and two 20 amp GFCI receptacles, each with their own circuit breakers.
- 80 amp main circuit breaker.

Generator Control Panel

- Basler DGC-500™ microprocessor-based, digital control panel; vibration isolated and NFPA110 compliant.
- Liquid crystal display screen with alpha-numeric readout for display and programming.
- Self-diagnostic feature continuously verifies processing, auto on/off and remote operation capabilities.

Trailer, Housing and Fuel Tank

- Single-axle trailer includes rear stabilizers, electric brakes, 15 inch tires/wheels, 2 inch ball coupler and tongue jack.
- 50 gallon, double-wall steel, sub-base fuel tank, UL142.
- Integral vibration isolators.
- Outdoor weather-protective.

Warranty

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



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Alternator Specifications

Manufacturer/Model	Mecc Alte ECO 28-2L/4
Type	4-Pole, Rotating Field
Exciter Type	Brushless, Shunt Excitation
Number of Leads	12 Lead, Double Delta Connection
Voltage Regulator	SR7/2-G, electronic
Insulation	NEMA MG1-1.66
Material	Class H
Temperature Rise	125°C, Standby Rating
Bearing, Type	Single, Sealed
Coupling	Flexible Disk Type
Amortisseur Windings	Full
Voltage Regulation (no load to full load)	±1.0% with speed variations between -5% +30% with reference to rated speed
Single Step Load Acceptance per NFPA 110	100% of Rating

Engine Specifications

Manufacturer	Isuzu
Model/Type	4LE1PV02 4-cycle, indirect injection, naturally aspirated, water cooled
Cylinder Arrangement	4 In-Line
Displacement	134 in ³ (2.2 liter)
Bore	3.35 in. (85 mm)
Stroke	3.78 in. (96 mm)
Compression Ratio	21.5:1
Cylinder Block	Cast iron
Cylinder Head	Cast iron, overhead valves
Crankshaft	Ductile cast iron
Brake Mean Effective Pressure (BMEP)	113.3 psi (781.2 kPa)
Rated RPM	1800 RPM
Max. Power @ Rated RPM (with fan)	Standby: 34.5 hp (25.7 kW) Prime: 31.4 hp (23.4 kW)
Governor Type	Mechanical
Frequency Regulation: no load to full load	5% under varying loads from no load to 100% rated load.
Frequency Regulation: Steady State	±0.5% of mean value for constant loads from no load to full load.
Air Cleaner Type	Dry

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: Refer to Amperage chart.

APPLICATION DATA

- 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, volts-per-hertz voltage regulator with ±1% no-load to full-load voltage regulation.

Amperage

Voltage	Phase	Power Factor	Amperage
120/240 Volt	1	1.0	83

Engine Electrical System

Battery Charging Alternator	
Make	Kokusan Denki
Ground Type	Negative
Volts (DC)	12VDC
Ampere Rating	20 A
Starter Motor	
Make	Denso
Rated Voltage	12VDC
Battery Capacity	580 Ah
Inrush Current	800 A
Cranking Current	500 A

Lubrication System

Type	Gear Driven
System Capacity-Less Filter	1.5 gallons (5.6 liters)
System Capacity-With Filter	2.1 gallons (8.1 liters)
Oil Filter	Full flow disposable spin-on
Oil Pressure At Rated Speed	35 psi (241.3 kPa)
Oil Temperature:	
Normal Range	185-230°F (85-110°C)
Maximum Range	230°F (110°C)

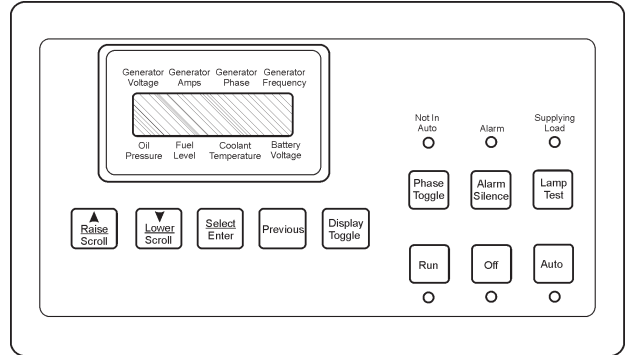


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Cooling System	
Exhaust Manifold Type	Dry
Radiator Design	Standard horizontal discharge
Ambient Temperature Rating	104°F (40°C)
Coolant Capacity:	
Engine Only	0.7 gallons (2.8 liters)
Engine and Radiator	TBD
Water Pump:	
Design	Belt driven
Type	Centrifugal
Coolant Flow	54 gal/min (205L/min)
Radiator Cooling Air	3810 cfm (108m³/min)
Heat Rejection At Rated Load:	
From Engine	Standby: 222.0 BTU/min (3.9 kW) Prime: 193.5 BTU/min (3.4 kW)
To Coolant	Standby: 1309.2 BTU/min (23 kW) Prime: 1138.4 BTU/min (20 kW)
Fan Diameter	15.0 in. (380 mm)
Fan Horsepower	0.8 hp (0.6 kW)
Thermostat:	
High Water Temperature Indication	Pre-Alarm: 210.2 °F (99 °C) Shutdown: 221.0 °F (105 °C)
Pressure Cap Setting	14 psi (97 kPa)

Fuel System	
Fuel Injection Pump Make	Bosch/Zexel
Recommended Fuel	ASTM-D975/No.2 Diesel
Feed Pump Pressure	3.9 psi (27 kPa)
Feed Pump Maximum Suction Head	1.64 feet (0.5 meter)
Fuel Filters	Replaceable spin-on paper element type filter
Fuel Consumption	
Diesel Fuel At % of Load	gal/hr (L/hr)
100%	1.44 (5.47)
75%	1.05 (3.99)
50%	0.74 (2.81)
25%	0.45 (1.70)

Exhaust System	
Exhaust Flow at Rated kW	Standby: 162.4 cfm (4.6 m³/min)
Exhaust Temperature at Rated kW	Standby: 1000.4°F (538°C)
Maximum Allowable Backpressure	40.95 in/wc (10.2 kPa)
Heat Rejection To Exhaust	TBD



GENERATOR CONTROLLER

- Basler-500™ Micro-processor based digital genset controller.
- 12 or 24 Volt DC compatible.
- Meets all NFPA 110 requirements for emergency power systems Level I installations.
- Backlit LCD display screen with alpha-numeric readout.
- Event log retains up to 30 types of system events.
- Self diagnostic features continuously verify processing, input/output and memory circuits.
- Generator voltage, frequency and current metering.
- Optional communication software enables remote operation.
- Certified to UL508 and CSA 22.2 #14 Industrial Control Equipment Standards.

Standard Controller Functions

Generator Metering

- Generator Voltage
- Generator Current
- Generator Frequency

Engine Metering

- Coolant Temperature
- Oil Pressure
- RPM

Run Time

- Run Time
- Engine Control
- Cranking Control
- Coolant Temperature Protection
- Oil Pressure Protection
- Cool down

Fuel System

- Fuel Level Sensing
- Fuel Level Sender Protection
- Fuel Leak Detector

System Monitoring

- Battery Voltage metering
- Battery Condition
- Engine Maintenance
- Engine Diagnostic Reporting
- Events log (stores a history of up to 30 system event types)
- VA metering
- Multifunction Generator Protection (optional)

Switches And Operating Controls

- Run/Off/Auto Pushbuttons
- Phase Toggle Pushbutton
- Audible Alarm Horn
- Alarm Silence Pushbutton
- Lamp Test Pushbutton

Controller LED Indicators

- Run, Off, Auto Mode
- Alarm Mode
- Auto Mode
- Not in Auto
- Supplying Load
- Alarm

LCD Display (Normal Mode)

- Generator Voltage
- Generator Amps
- Generator Phase
- Generator Frequency
- Oil Pressure
- Fuel Level
- Coolant Temperature
- Battery Voltage

LCD Controls

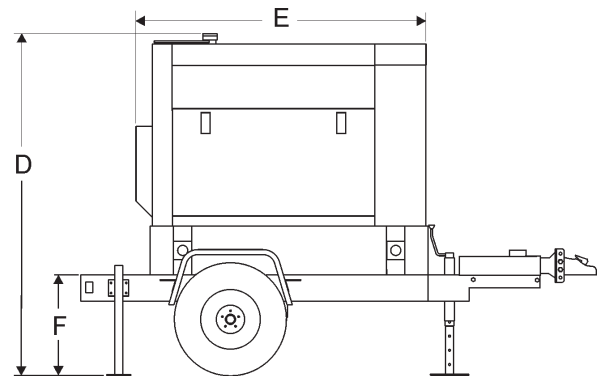
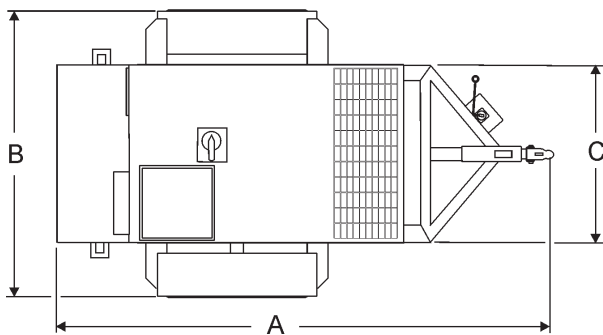
- Display Toggle Pushbutton
- Select/Enter Pushbutton
- Previous Pushbutton
- Raise/Scroll Pushbutton
- Lower/Scroll Pushbutton



MQP20IZM 20kW Generator

Generator Set Options

- Generator Strip Heater - 120VAC
- Coolant Heater - aids with cold weather starts (120VAC)
- Low Coolant Shutdown Safety - provides protection from critically low coolant levels
- Electronic Governor - 0.25% frequency regulation
- Engine Crankcase Ventilation Filter - Racor™
- Environmental Plastic Battery Box - non-corrosive container protects battery from elements
- Battery Charger options - Equalize/Float Type 3.5 Amperes
- Automatic Transfer Switch
- Back-up Light - DC powered
- Service Lights in Housing
- Electronic Tracking Device - Contact MQ Power for details
- Wheel Locking Device - Contact MQ Power for details
- Trailer Mounted Tool Box



Weight & Dimensions (with Trailer)

A	B	C	D	E	F
126 in.	68 in.	42 in.	77 in.	72 in.	17 in.
weight without fuel			weight with fuel		
2270 lbs (1029 kg) *			2636 lbs (1195 kg) *		

* Weight is approximate

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:



MQ POWER

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