

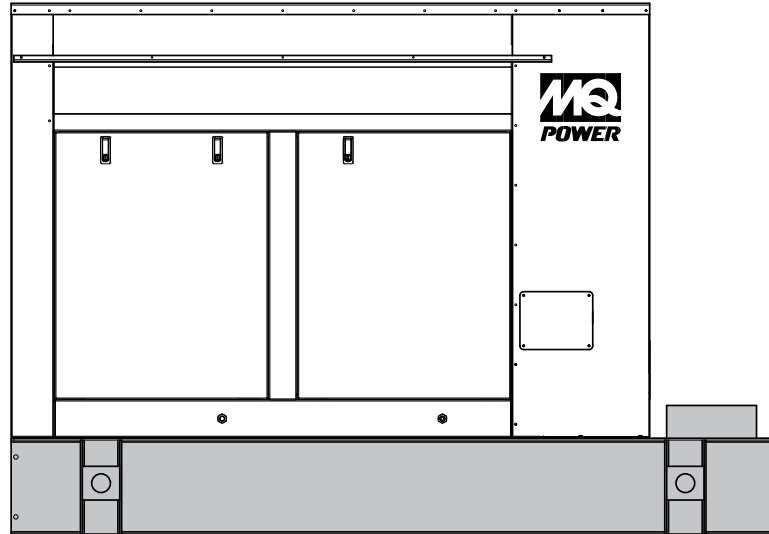


# MQP030PK4i

## MQ POWER Diesel On-Site Industrial Generator

Standby Rating — 30 kW (37.5 kVA)

60 Hz, EPA Certified, Tier 4 Interim



### STANDARD FEATURES

#### Heavy Duty Engine

- Heavy duty, 4-cycle, diesel engine; turbocharged, direct injection, water cooled, overhead valves.
- Single side service engine.
- Meets EPA Tier 4 Interim emissions standards.

#### Alternator

- Brushless, 4-pole, synchronous, 12 lead or 4 lead design.
- Class H insulation system conforms to 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.
- Voltage regulation of 1% 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).
- Coolant Heater.
- Low Coolant Shutdown Safety.

#### Generator Control Panel

- MEC 20™ microprocessor-based, digital control panel; vibration isolated and NFPA 110 compliant.
- Liquid crystal display screen with alphanumeric readout for display and programming.
- Self-diagnostic feature continuously verifies processing, memory circuits and input/output.
- Frequency adjust potentiometer and voltage adjust potentiometer.

#### Electrical System

- Battery.
- Battery Charger, Equalize/Float Type 3.5 Amperes.

#### Engine

- Electronic Governor.
- Engine Block Heater.

#### Skid and Housing

- Generator mounted on 70 gallon sub-base tank.
- Integral vibration isolators.
- Outdoor weather-protective or sound-attenuated housings.
- Critical Grade Exhaust Silencer.
- Steel battery rack and battery cables.
- Rain Cap.

#### 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

- UL 2200.



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### SPECIFICATIONS

<i>Alternator Specifications</i>	<b>Standard 3-Phase Generator</b>	<b>Optional Full Output 1-Phase Generator</b>
Manufacturer/Model	Marathon Magnaplus 282PSL1705	Marathon Magnaplus 283PSL1706
Type	4-Pole, Rotating Field	4-Pole, Rotating Field
Exciter Type	Brushless, Shunt Excitation Design	Brushless, Shunt Excitation Design
Number of Leads	12 Lead, Broad Range, Reconnectable	4 Lead
Voltage Regulator	SE350, Solid State, Volts-per-Hertz	SE350, Solid State, Volts-per-Hertz
Insulation	NEMA MG1-1.66	NEMA MG1-1.66
Material	Class H	Class H
Temperature Rise	125°C, Standby Rating	125°C, Standby Rating
Bearing, Type	Single, Sealed	Single, Sealed
Coupling	Flexible Disk Type	Flexible Disk Type
Cooling Air Volume	250 cfm (7.1 m <sup>3</sup> /min.)	250 cfm (7.1 m <sup>3</sup> /min.)
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

<i>Engine Specifications</i>	
Manufacturer/Model	Perkins / 404D-22TAG
Type	4-cycle, indirect injection
Cylinder Arrangement	4 In-Line
Displacement	135 in <sup>3</sup> (2.2 liter)
Bore	3.30 in. (84 mm)
Stroke	3.93 in. (100 mm)
Compression Ratio	23.3:1
Cylinder Block	Cast iron
Cylinder Head	Cast iron, overhead valves
Crankshaft	High carbon steel, forged and tufrided
Brake Mean Effective Pressure (BMEP)	158.8 psi (1095 kPa)
Rated RPM	1800 RPM
SAE Gross Horsepower	48.7 hp
Governor Type	Electronic
Frequency Regulation: no load to full load	3%~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:** 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.

<i>Amperage</i>			
Voltage	Phase	Wire	Amperage
120/208 Volt	3	4	104
120/240 Volt	3	4	90
277/480 Volt	3	4	45
120/240 Volt Full Output	1	3	125

<i>Fuel System</i>		
Fuel Injection Pump	Indirect Cassette	
Recommended Fuel	ASTM-D975 / No.2-D	
Feed Pump Pressure	1.5 psi (10 kPa)	
Feed Pump Maximum Suction Head	2.6 feet (.8 meter)	
Fuel Filter	Spin-on, paper element type filter	
Max. Fuel Flow	16.6 gal/hr (63 L/h)	
Fuel Tank Capacity	70 gal (265 l)	
Fuel Consumption:	gph	lph
At full load	2.3	8.9
At 3/4 load	1.7	6.5
At 1/2 load	1.2	4.6

<i>Exhaust System</i>	
Exhaust Flow at Rated kW	296 cfm (8.4 m <sup>3</sup> /min)
Exhaust Temperature at Rated kW	892 °F (478 °C)
Maximum Allowable Back Pressure	40.95 in/wc (10.2 kPa)



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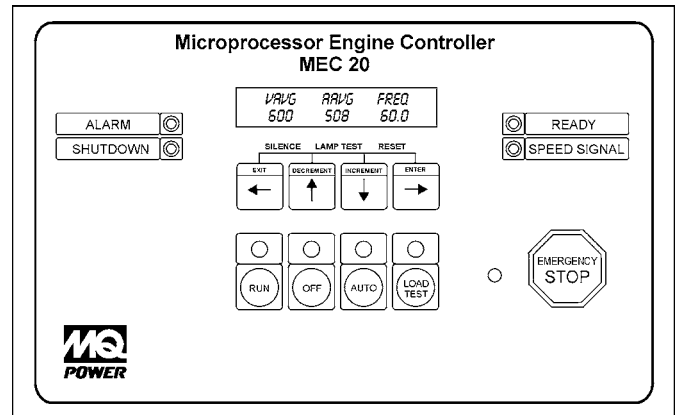
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Lubrication System	
Type	Gear Driven
System Capacity-With Filter	2.8 gallons (10.6 liters)
Oil Filter	Full flow disposable spin-on
Oil Pressure At Rated Speed	17-21 psi (117-145 kPa)
Oil Temperature Normal Range	125-257°F (52-125°C)

Cooling System	
Exhaust Manifold Type	Dry
Radiator Design	Standard horizontal discharge
Ambient Temperature Rating	104°F (40°C)
Coolant Capacity (Engine Only)	1.0 gallons (3.6 liters)
Water Pump Design/Type	Belt driven, Centrifugal Vane
Coolant Flow	14.9 gal/min (56.2 L/min)
Radiator Cooling Air	1850 cfm (52 m³/min)
Fan Diameter	12.6 in. (320 mm)
Fan Horsepower	0.9 HP (0.7 kW)
High Water Temperature Indication	221.0°F (105°C)
Pressure Cap Setting	16 psi (110 kPa)

Engine Electrical System	
Battery Charging Alternator - Make	DENSO
Ground Type	Negative
Volts (DC)	12VDC
Ampere Rating	40 A
Starter Motor Make/Model	Delco Remy
Starter Motor Rated Voltage	12 VDC
Cranking Current	600 A

Derating Factors	Altitude	Ambient Temperature
The engine may be operated up to 500 ft. and up to 40°C without derating. For operation at higher altitudes and ambient temperatures, the power should be derated according to the following factors:	4% / 1000 ft.	0.36% / °C



### GENERATOR CONTROLLER

- MEC 20™ microprocessor-based digital generator controller.
- Meets all NFPA 110 requirements for emergency power systems Level I installations.
- High visibility graphical display screen with alpha-numeric readout.
- Self diagnostic features continuously verify processing, input/output and memory circuits.
- Digital 3-phase Power Metering including kW, kVAR, kVA power factor, kWhr and kVARhr for generator supply.
- Remote communication port available.
- Certified to UL508 and CSA 22.2 #14 Industrial Control Equipment Standards.
- Common Fail Output Contact (10A/240 VAC, 8A/24 VDC).
- 4 Programmable Output Contacts (10A/240 VAC, 8A/24 VDC).
- Provision for Remote Contact Inputs - Emergency Stop, Remote Reset.

#### Standard Controller Features

- AC Metering Display:
  - Voltage/Amperage/Frequency
  - Generator Phase Voltage/Current
  - Generator Frequency
- Engine Control & Monitoring:
  - LCD Operator Interface Display
  - Auto Start Control
- Engine Parameter Display:
  - Switch Not In Auto
  - Low/High Fuel Level
  - Oil Pressure
  - Engine Temperature
  - Battery Voltage/Condition
  - RPM
- Digital Fault Alarm/Shutdown Display:
  - Overvoltage
  - Emergency Stop
  - Loss Of Speed
  - Overcrank
  - Overspeed Alarm
  - Low Oil Pressure Alarm
  - High Engine Temperature
  - Low Coolant Level
- Dedicated Output Contacts:
  - 8A
  - Normally Open Crank
  - Fuel (Run)
- Configurable Set Points/Time Delays:
  - Engine Start
  - Crank
  - Rest
  - Cool down
  - Oil bypass
  - Preheat
- Protective Relaying:
  - IEEE/ANSI (27/59) Over/under voltage
  - (81 o/u) Over/under frequency
  - (51) Time-overcurrent Protection
- Communication Interface Ports:
  - CANbus communication port
  - RJ11 port for PC interface
- Optional Features
  - Expansion Alarm Remote Annunciator (EAP 110)



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## MQ POWER Diesel On-Site Industrial Generator

### Generator Set Options

#### Alternator

- Full output 1 Phase Alternator
- Generator Strip Heater
- Permanent Magnet Generator (PMG)

#### Control Panel

- Remote Monitoring and Generator
- Network Communications Link

#### Engine

- Engine Crankcase Ventilation Filter

#### Electrical System

- Battery Tender® Charger, Float Type, 5 Amperes @ 12VDC / (2.5A@24 VAC)
- Battery Charger w/Alarms, Equalize/Float Type, 10 Amperes

#### Fuel System

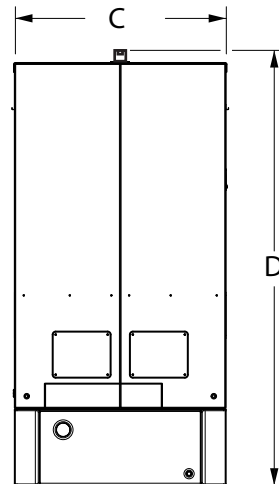
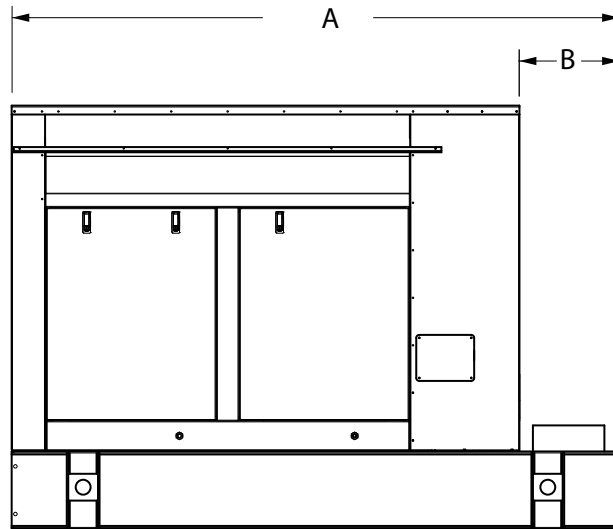
- Sub-base Fuel Tank (48-hr), Double Wall, UL142

#### Automatic Transfer Switch

- Amperage \_\_\_\_\_
- No. Poles \_\_\_\_\_
- Type Enclosure \_\_\_\_\_
- Options

#### 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
  - 347/600 Volt, 3 Phase, 3 Pole
  - 120/240 Volt, 1 Phase, 3 Pole
- Main Line Circuit Breaker Options
  - Auxiliary Contacts
  - DC Shunt Trip
- Remote Annunciator Panel
- Remote Emergency Stop Kit
- Vibration Isolators, Spring Type



### Weights and Dimensions

Dimensions	A	B	C	D
in. (mm)	102 (2,590.8)	16.25 (412.75)	36 (914.4)	71.11 (1,806.2)
Weight <sup>1</sup>	2,750 lbs. (1,247 kg)			

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.

<sup>1</sup>Weight is 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.

Your Multiquip dealer is:

