



**APPLICATION AND ENGINEERING DATA**

**ENGINE SPECIFICATIONS**

**General**

Make	Generac
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	(2) 6
Type	In - Line
Displacement - L (cu. in.)	16.12 (983.7)
Bore - mm (in.)	144 (5.67)
Stroke - mm (in.)	165 (6.5)
Compression Ratio	16.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head Type	One Piece Cast Iron
Piston Type	Aluminum w/ Cooling Cavity, oil cooled
Connecting Rod Type	I-Beam Section

**Engine Governing**

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	± 0.25%

**Lubrication System**

Oil Pump Type	Gear
Oil Filter Type	Full - Flow Cartridge
Crankcase Capacity - L (gal)	48 (12.7)

**Cooling System (each engine)**

Cooling System Type	Closed Recovery
Water Pump	Prelubed, Self Sealing
Fan Type	Pusher
Fan Speed (rpm)	1872
Fan Diameter mm (in.)	889 (35)
Coolant Heater Standard Wattage	2x2000W
Coolant Heater Standard Voltage	240VAC

**Fuel System (each engine)**

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	10
Fuel Inject Pump Make	Delphi
Fuel Pump Type	Engine Driven Gear
Injector Type	Multi-hole, Nozzle Type
Engine Type	Direct Injection
Fuel Supply Line - mm (in.)	12.7 (½")
Fuel Return Line - mm (in.)	12.7 (½")

**Engine Electrical System (each engine)**

System Voltage	24 VDC
Battery Charging Alternator	80 Amps
Battery Size (at 0°C)	1155
Battery Group	8D
Battery Voltage	(2) - 12 VDC
Ground Polarity	Negative

**ALTERNATOR SPECIFICATIONS**

Standard Model	Generac WEG	Voltage Regulator Type	Digital
Poles	4	Number of Sensed Phases	3
Field Type	Revolving	Regulation Accuracy (Steady State)	± 0.25%
Insulation Class - Rotor	H	Paralleling Controls	Standard
Insulation Class - Stator	H		
Total Harmonic Distortion	< 3%		
Telephone Interference Factor (TIF)	< 50		
Standard Excitation	Permanent Magnet		
Bearings	Single Sealed Cartridge		
Coupling	Direct, Flexible Disc		
Load Capacity - Standby	100%		
Prototype Short Circuit Test	Yes		

**CODES AND STANDARDS COMPLIANCE (WHERE APPLICABLE)**

NFPA 99	BS5514
NFPA 110	SAE J1349
ISO 8528-5	DIN6271
ISO 1708A.5	IEEE C62.41 TESTING
ISO 3046	NEMA ICS 1
	UL2200

**PARALLELING CONTROLS**

- Auto-Synchronization Process
- Isochronous Load Sharing
- Reverse Power Protection
- Maximum Power Protection
- Electrically Operated, Mechanically Held Paralleling Switch
- Sync Check System
- Independent On-Board Paralleling
- Optional Programmable Logic Full Auto Back-Up Control (PLS)

**Rating Definitions:**

Standby – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability. (Max. load factor = 70%)

Prime – Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. (Max. load factor = 80%) A 10% overload capacity is available for 1 out of every 12 hours.

# MD1000GEM | 16.0L | 1000 kW

## INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

### OPERATING DATA (60Hz)

#### POWER RATINGS (kW)

	STANDBY		PRIME	
Three-Phase 277/480VAC @0.8pf	1000 kW	Amps: 1505	900 kW	Amps: 1355
Three-Phase 346/600VAC @0.8pf	1000 kW	Amps: 1204	900 kW	Amps: 1084

#### STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip							
480VAC							
Alternator	kW	10%	15%	20%	25%	30%	35%
Standard	(2) 500	914	1371	1829	2286	2743	3200
Upsize 1	-	-	-	-	-	-	-

#### FUEL

##### Fuel Consumption Rates\* (includes two engines)

Fuel Pump Lift - mm (in)	STANDBY			PRIME		
	Percent Load	gph	lph	Percent Load	gph	lph
1000 (40)	25%	17.4	65.8	25%	15.4	56.6
	50%	30.6	115.8	50%	26.8	101.4
	75%	45.4	171.8	75%	39.8	150.6
	100%	62.6	237.0	100%	56.2	212.8

\* Refer to "Emissions Data Sheet" for maximum fuel flow for EPA and SCAQMD permitting purposes.

#### COOLING

Coolant Capacities - Gal (L)		STANDBY		PRIME	
System	(2) x 15.9 (60.2)	Coolant Flow per Minute	gpm (lpm)	(2) x 122 (462)	(2) x 122 (462)
Engine	(2) x 8.78 (33)	Heat Rejection to Coolant	BTU/hr	(2) x 1,153,968	(2) x 1,035,991
Radiator	(2) x 7.1 (26.9)	Inlet Air	cfm (m3/min)	(2) x 23,308 (660)	(2) x 23,308 (660)
		Max. Operating Radiator Air Temp	F° (C°)	122 (50)	122 (50)
		Max. Operating Ambient Temperature	F° (C°)	104 (40)	104 (40)
		Maximum Radiator Backpressure	in H <sub>2</sub> O	0.5	0.5

#### COMBUSTION AIR REQUIREMENTS

		STANDBY	PRIME
Flow at Rated Power	cfm (m3/min)	(2) x 1617 (45.8)	(2) x 1554 (44.0)

#### ENGINE

		STANDBY	PRIME
Rated Engine Speed	rpm	1800	1800
Horsepower at Rated kW**	hp	757	681
Piston Speed	ft/min	1950	1950
BMEP	psi	339	302

\*\* Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

#### EXHAUST

		STANDBY	PRIME
Exhaust Flow (Rated Output)	cfm (m <sup>3</sup> /min)	(2) x 3899 (110.4)	(2) x 3553 (100.6)
Max. Backpressure (Post Silencer)	inHg (Kpa)	1.5 (5.1)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	893 (479)	817 (436)
Exhaust Outlet Size (Open Set)		(2) x 8" Diameter Exhaust Stack	

**STANDARD FEATURES AND OPTIONS**

**GENERATOR SET**

- Genset Vibration Isolation Std
- IBC Seismic Certified/Seismic Rated Vibration Isolators Opt
- Extended warranty Opt
- Gen-Link Communications Software Opt
- Steel Enclosure Std
- Aluminum Enclosure Opt
- Enclosure Lighting Kits Opt

**ENGINE SYSTEM**

- General
- Oil Drain Extensions Std
  - Oil Heaters Opt
  - Air cleaners Std
  - Fan guards Std
  - Radiator duct adapters Std
  - Critical Exhaust Silencers Std
  - Stainless steel flexible exhaust connections Std

- Fuel System
- Fuel lockoff solenoids Std
  - Secondary fuel filters Std
  - Primary fuel filters Opt
  - Single Wall Tank (Export Only) -
  - UL 142 Fuel Tank Opt
- Cooling System
- 208VAC Coolant Heaters Opt
  - 240VAC Coolant Heaters Std
  - Other Coolant Heaters -
  - Closed Coolant Recovery Systems Std
  - UV/Ozone resistant hoses Std
  - Factory-Installed Radiators Std
  - Radiator Drain Extensions Std

- Engine Electrical System
- Battery charging alternators Std
  - Battery cables Std
  - Battery trays Opt
  - Battery boxes Opt
  - Battery heaters Opt
  - Solenoid activated starter motors Std
  - 10A UL float/equalize battery chargers Opt
  - Rubber-booted engine electrical connections Std

**ALTERNATOR SYSTEM**

- UL2200 GENprotect™ Std
- Main Line Circuit Breakers (Output connections on paralleling switch) Std
- Anti-Condensation Heaters Opt
- Tropical coating Std
- Permanent Magnet Excitation Std

**CONTROL SYSTEM**

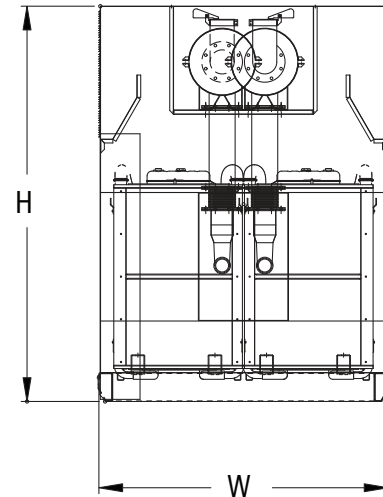
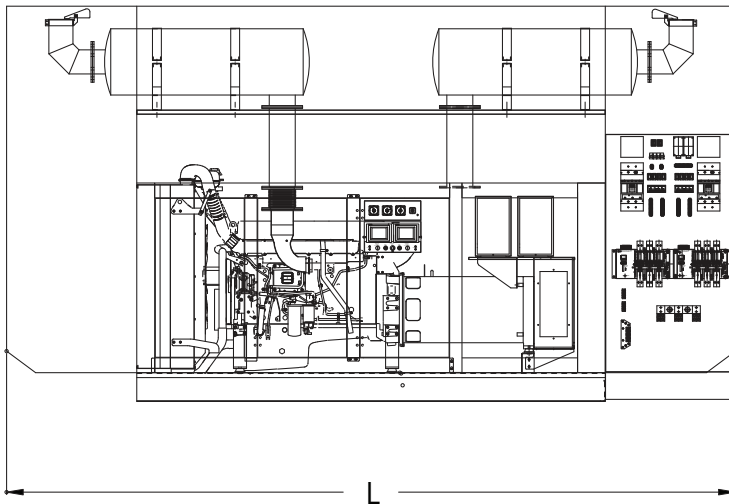
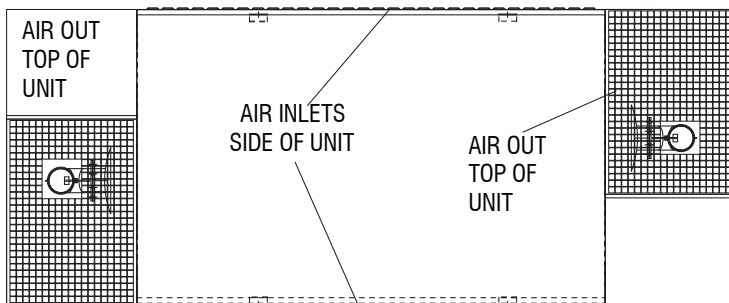
- Control Panel
- Digital H Control Panel - Dual 4x20 Display na
  - Digital G-100 Control Panel - Touchscreen na
  - Digital G-200 Paralleling Control Panel - Touchscreen Std
  - Programmable Crank Limiter Std
  - 21-Light Remote Annunciator Opt
  - Remote Relay Panel (8 or 16) Opt
  - 7-Day Programmable Exerciser Std
  - Special Applications Programmable PLC Std
  - RS-232 Std
  - RS-485 Std
  - All-Phase Sensing DVR Std
  - Full System Status Std
  - Utility Monitoring (Req. H-Transfer Switch) Std
  - 2-Wire Start Compatible Std
  - Power Output (kW) Std
  - Power Factor Std
  - Reactive Power Std
  - All phase AC Voltage Std
  - All phase Currents Std
  - Oil Pressure Std
  - Coolant Temperature Std
  - Coolant Level Std
  - Oil Temperature Opt
  - Fuel Level Std
  - Engine Speed Std
  - Battery Voltage Std
  - Frequency Std
  - Date/Time Fault History (Event Log) Std
  - Low-Speed Exercise -
  - Isochronous Governor Control Std
  - 40deg C - 70deg C Operation Std
  - Waterproof Plug-In Connectors Std
  - Audible Alarms and Shutdowns Std
  - Not in Auto (Flashing Light) Std
  - Auto/Off/Manual Switch Std
  - E-Stop (Red Mushroom-Type) Std
  - Remote E-Stop (Break Glass-Type, Surface Mount) Opt
  - Remote E-Stop (Red Mushroom-Type, Surface Mount) Opt
  - Remote E-Stop (Red Mushroom-Type, Flush Mount) Opt
  - NFPA 110 Level I and II (Programmable) Std
  - Remote Communication - RS232 Std
  - Remote Communication - Modem Opt
  - Remote Communication - Ethernet Opt
  - PLS Full Auto Back-Up for PM-SC Opt

- Alarms (Programmable Tolerances, Pre-Alarms and Shutdowns)
- Low Fuel Opt
  - Oil Pressure (Pre-programmed Low Pressure Shutdown) Std
  - Coolant Temperature (Pre-programmed High Temp Shutdown) Std
  - Coolant Level (Pre-programmed Low Level Shutdown) Std
  - Oil Temperature Std
  - Engine Speed (Pre-programmed Overspeed Shutdown) Std
  - Voltage (Pre-programmed Overvoltage Shutdown) Std
  - Battery Voltage Std

**ENCLOSURE AND TANK CONFIGURATIONS**

**LEVEL 1 ACOUSTIC ENCLOSURE**

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT
NO TANK	-	258	96	131	21000
14	853	258	96	151	25130
25	1578	258	96	160	25630
37	2310	258	96	170	26370



**Tank Options**

- MDEQ OPT

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- Florida DERM/DEP OPT

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- Chicago Fire Code OPT

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- IFC Certification CALL

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- ULC CALL

Other Custom Options Available from your Generac Industrial Power Dealer

\*All measurements are approximate and for estimation purposes only. Weights are without fuel in tank.

**YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER**

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.