GENERAC® | INDUSTRIAL POWER

MD600

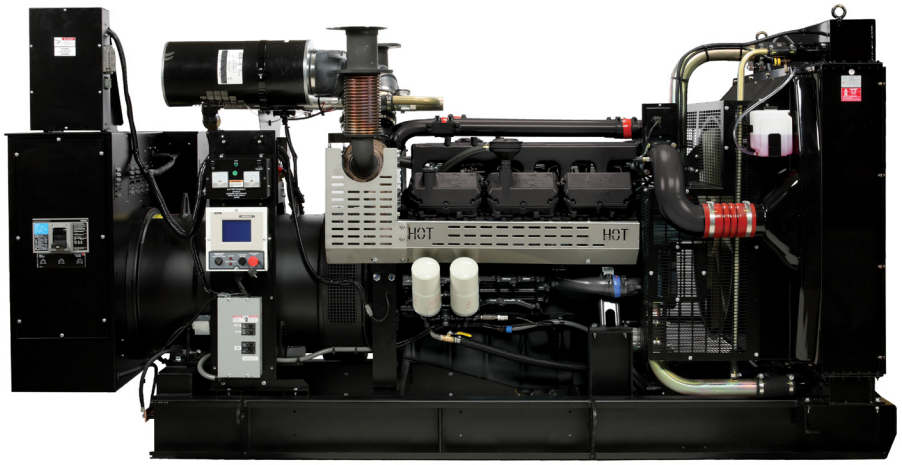
PARALLELING UNIT

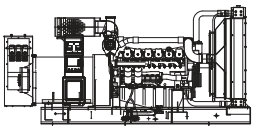
Industrial Diesel Generator Set

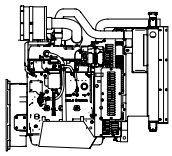
EPA Emissions Certification: Tier II

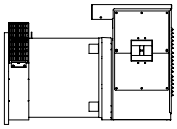
Standby Power Rating
600KW 60 Hz

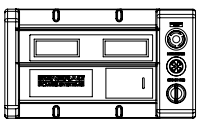
Prime Power Rating
547KW 60 Hz











features benefits

Generator Set

• CONFIGURED FOR PARALLELING	▶ MODULAR PARALLELING SYSTEM
• UL2200 TESTED	▶ ENSURES A QUALITY PRODUCT
• RHINOCOAT PAINT SYSTEM	▶ IMPROVES RESISTANCE TO ELEMENTS
• WIDE RANGE OF ENCLOSURES AND TANKS	▶ PROVIDES A SINGLE SOURCE SOLUTION

Engine

• EPA TIER COMPLIANT	▶ ENVIRONMENTALLY FRIENDLY
• INDUSTRIAL TESTED, GENERAC APPROVED	▶ FOR INDUSTRIAL APPLICATIONS
• POWER-MATCHED OUTPUT	▶ ENGINEERED FOR PERFORMANCE
• INDUSTRIAL GRADE	▶ IMPROVES LONGEVITY AND RELIABILITY

Alternator

• TWO-THIRDS PITCH	▶ ELIMINATES HARMFUL 3RD HARMONIC
• LAYER WOUND ROTOR & STATOR	▶ IMPROVES COOLING
• CLASS H MATERIALS	▶ HEAT TOLERANT DESIGN
• DIGITAL 3-PHASE VOLTAGE CONTROL	▶ FAST AND ACCURATE RESPONSE

Controls

• INTEGRATED PARALLELING	▶ SINGLE CONTROL BOARD
• 4-20mA VOLTAGE-TO-CURRENT SENSORS	▶ NOISE RESISTANT 24/7 MONITORING
• SURFACE-MOUNT TECHNOLOGY	▶ PROVIDES VIBRATION RESISTANCE
• ADVANCED DIAGNOSTICS & COMMUNICATIONS	▶ HARDENED RELIABILITY

primary codes and standards

NEMA · c UL us LISTED · NFPA · ASTM INTERNATIONAL · ISO · ICC

MD600 application and engineering data

ENGINE SPECIFICATIONS

General

Make	Doosan
EPA Emissions Compliance	Tier II
EPA Emissions Engine Reference	DWX-NRC1-06-06
Cylinder #	12
Type	V-12
Displacement - L (cu. in.)	22.0(1338)
Bore - mm (in.)	128(5.04)
Stroke - mm (in.)	142(5.60)
Compression Ratio	15.0:1
Intake Air Method	Turbocharged/Aftercooled
Number of Main Bearings	6
Connecting Rod Type	I-Beam Section
Cylinder Head Type	3 Cylinder Bank Heads
Piston Type	Open Chamber/Oil Cooled
Crankshaft Type	Counter Weighted Type

Valve Train

Lifter Type	Solid
Intake Valve Material	High Temp, Hardened
Exhaust Valve Material	High Temp, Hardened

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)(qts)	42(11.1)

Cooling System

Cooling System Type	Closed Recovery
Water Pump	Centrifugal Type, Belt Driven
Fan Type	Pusher
Fan Blade Number	7
Fan Diameter mm (in.)	915(36)
Coolant Heater Wattage	240V (4000W)
Coolant Heater Standard Voltage	120VAC

Fuel System

Fuel Type	#2 Diesel (min. Cetane #40)
Fuel Specifications	ASTM
Fuel Filtering (microns)	10
Fuel Inject Pump Make	Bosch P Type x 1
Fuel Pump Type	Engine Driven Gear
Injector Type	Bosch Multi-Hole
Engine Type	V-Type, 4 Cycle
Fuel Supply Line - mm (in.)	1/2"FNPT
Fuel Return Line - mm (in.)	1/2"FNPT

Engine Electrical System

System Voltage	12VDC
Battery Charging Alternator	45A
Battery Size (at 0 oC)	2x700CCA/90AH
Battery Group	27F
Battery Voltage	(1) 12VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Model	390
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<3%
Telephone Interference Factor (TIF)	<50
Alternator Type	Self-Ventilated, Drip-Proof
Bearings	Single Sealed Cartridge
Coupling	Direct, Flexible Disc
Load Capacity - Standby	100%
Load Capacity - Prime	110%
Prototype Short Circuit Test	Y

Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	+/-0.25%
Paralleling Controls	Standard

CODES AND STANDARDS COMPLIANCE (WHERE APPLICABLE)

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

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.

MD600 operating data (60Hz)

POWER RATINGS (kW)

	STANDBY	PRIME
Single-Phase 120/240VAC @1.0pf	600	547
Three-Phase 120/208VAC @0.8pf	600	547
Three-Phase 120/240VAC @0.8pf	600	547
Three-Phase 277/480VAC @0.8pf	600	547
Three-Phase 600VAC @0.8pf	600	547

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

		480VAC						208/240VAC					
Alternator	kW	*10%*	*15%*	*20%*	*25%*	*30%*	*35%*	*10%*	*15%*	*20%*	*25%*	*30%*	*35%*
Standard*	600	471	707	943	1179	1414	1650	543	814	1086	1357	1629	1900
Upsize 1**	792	743	1114	1486	1857	2229	2600	571	857	1143	1429	1714	2000
Upsize 2**	912	771	1157	1543	1929	2314	2700	-	-	-	-	-	-

*All Generac industrial alternators utilize Class H materials. Standard alternator provides less than or equal to Class F temperature rise. Upsize 1 provides less than or equal to Class B temperature rise. Upsize 2 provides Class A temperature rise. ** 208VAC Upsize is 700kW alternator.

FUEL

Fuel Pump Lift - in (m)
40

Fuel Consumption Rates

STANDBY		PRIME	
Percent Load	Gallons/Hour (liters/Hour)	Percent Load	Gallons/Hour (liters/Hour)
25%	14.4 (54.5)	25%	14.1 (53.43)
50%	23.4 (88.7)	50%	21.1 (79.1)
75%	36.6 (138.6)	75%	32.3 (122.4)
100%	46.2 (175.1)	100%	42.1 (159.6)

COOLING

Coolant Capacities - Gal (L)

System	131(34.6)
Engine	36(9.5)
Radiator	95(25)

		STANDBY	PRIME
Coolant Flow per Minute	gpm (lpm)	230 (870)	231 (870)
Heat rejection to Coolant	BTU/min	1,740,000	1,390,000
Inlet Air	cfm (m3/hr)	23,500 (665)	23,500 (665)
Max. Operating Radiator Air Temp	F^o (C^o)	140 (60)	140 (60)
Max. Operating Ambient Temperature	F^o (C^o)	122 (50)	122 (50)

COMBUSTION AIR REQUIREMENTS

		STANDBY	PRIME
Flow at Rated Power	cfm (m3/min)	1959 (55.5)	1716 (48.6)

EXHAUST

Exhaust Outlet Size - N.P.T. (female)
2.5"

		STANDBY	PRIME
Exhaust Flow (Rated Output)	cfm (m3/hr)	6419 (182)	5615 (159)
Maximum Backpressure	^{o}Hg (Kpa)	1.5 (5.1)	1.5 (5.1)
Exhaust Temp (Rated Output)	^{o}F (^{o}C)	1300 (704)	1141 (616)

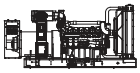
ENGINE

		STANDBY	PRIME
Rated Engine Speed	rpm	1800	1800
Horsepower at Rated kW	hp	954	835
Piston Speed	ft/min (m/min)	1677 (8.5)	1677 (8.5)
BMEP	psi	313	274

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

MD600

standard features and options



GENERATOR SET

● Genset Vibration Isolation	Std
○ Seismic Rated Vibration Isolators	Opt
○ Extended warranty	Opt
○ Export boxing	Opt
○ Gen-Link Communications Software	Opt
○ Steel Enclosure	Opt
○ Aluminum Enclosure	Opt

ENGINE SYSTEM

General

● Oil Drain Extension	Std
○ Oil Make-Up System	Opt
○ Oil Heater	Opt

Fuel System

● Fuel lockoff solecnoid	Std
● Secondary fuel filter	Std
● Stainless steel flexible exhaust connection	Std
● Industrial Exhaust Silencer	Std
○ Critical Exhaust Silencer	Opt
○ Flexible fuel lines	Opt
○ Primary fuel filter	Opt
○ Single Wall Tank (Export Only)	-
○ UL 142 Fuel Tank	Opt
○ Internal Base Tank	-

Cooling System

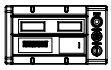
○ 120VAC Coolant Heater	Opt
○ 208VAC Coolant Heater	Opt
○ 240VAC Coolant Heater	Opt
○ Other Coolant Heater_____	-
● Closed Coolant Recovery System	Std
● UV/Ozone resistant hoses	Std
● Factory-Installed Radiator	Std
● Radiator Drain Extension	Std

Engine Electrical System

● Battery charging alternator	Std
● Battery cables	Std
● Battery tray	Std
○ Battery box	Opt
○ Battery heater	Opt
● Solenoid activated starter motor	Std
● Air cleaner	Std
● Fan guard	Std
● Radiator duct adapter	Std
○ 2A battery charger	Opt
○ 10A UL float/equalize battery charger	Opt
● Rubber-booted engine electrical connections	Std

ALTERNATOR SYSTEM

○ UL2200 Generator Protector	-
● Main Line Circuit Breaker	Std
○ 2nd Circuit Breaker	-
○ 3rd Circuit Breaker	-
○ Alternator Upsizing	Opt
○ Anti-Condensation Heater	Opt
○ Tropical coating	Opt
○ Voltage changeover switch	-



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	-
● Special Applications Programmable PLC	Std
● RS-232	Std
● RS-485	Std
● All-Phase Sensing DVR	Std
● Full System Status	Std
● Utility Monitoring (Req. CTs and PTs)	Std
● 2-Wire Start Compatible	Std
● Power Output (kW)	Std
● Power Factor	Std
● Reactive Power	Std
● All phase AC Voltage and Frequency	Std
● All phase Currents	Std
● Digital Synchroscope	Std
● Coolant Temperature	Std
● Coolant Level	Std
● Oil Temperature	Std
● Fuel Pressure	Std
● Engine Speed	Std
● Battery Voltage	Std
● Oil Pressure	Std
● Date/Time Fault History (Event Log)	Std
○ UL2200 Generator Protector	-
○ 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
● On/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	Opt
○ 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	Std
● Oil Pressure (Pre-programmed Low Pressure Shutdown)	Std
● Coolant Temperature (Pre-programmed High Temp Shutdo	Std
● Coolant Level (Pre-programmed Low Level Shutdown)	Std
● Oil Temperature	Std
● Fuel Pressure	Std
● Engine Speed (Pre-programmed Overspeed Shutdown)	Std
● Voltage (Pre-programmed Overvoltage Shutdown)	Std
● Battery Voltage	Std

Other Options

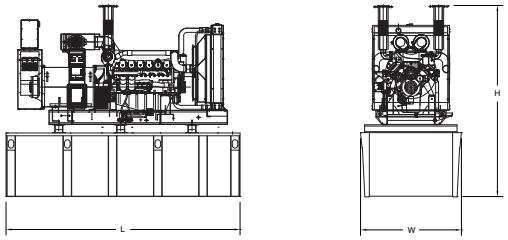
○ _____

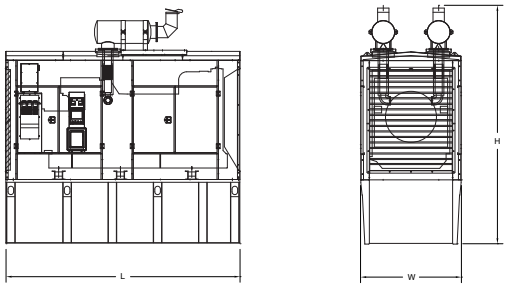
○ _____

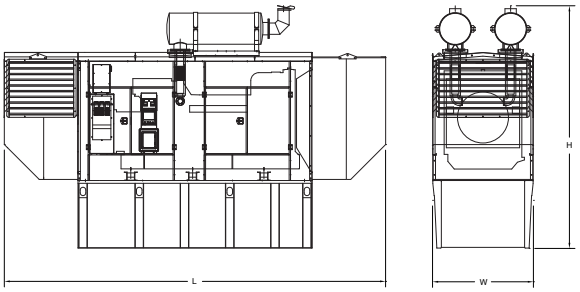
○ _____

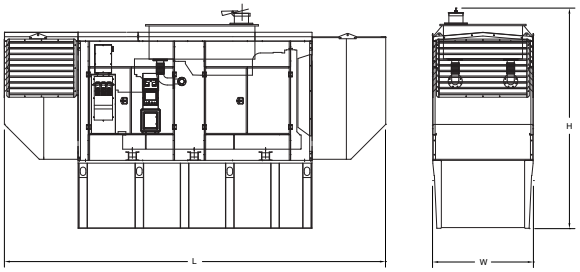
MD600

dimensions, weights and sound levels









OPEN SET (INCLUDES FLEX CONNECTOR, EXCLUDES SILENCER)

	L	W	H	WT	dBA*
NO TANK	75.98	57.1	84.1	9420	95
8	75.98	70.9	100.1	12105	
12	75.98	70.9	105.4	12285	
24	75.98	70.9	113.2	13405	
36	75.98	70.9	123.5	13705	
48	CALL	CALL	CALL	CALL	
72	CALL	CALL	CALL	CALL	
96	CALL	CALL	CALL	CALL	

WEATHERPROOF ENCLOSURE

	L	W	H	WT	dBA*
NO TANK	165.4	70.9	121.4	11850	92
8	165.4	70.9	137.4	15019	
12	165.4	70.9	142.7	15199	
24	206.7	70.9	150.5	16319	
36	206.7	70.9	160.8	16619	
48	CALL	CALL	CALL	CALL	
72	CALL	CALL	CALL	CALL	
96	CALL	CALL	CALL	CALL	

LEVEL 1 SOUND ENCLOSURE

	L	W	H	WT	dBA*
NO TANK	269.5	70.9	121.4	12689	80
8	269.5	70.9	137.4	16603	
12	269.5	70.9	142.7	16783	
24	269.5	70.9	150.5	17703	
36	269.5	70.9	160.8	18203	
48	CALL	CALL	CALL	CALL	
72	CALL	CALL	CALL	CALL	
96	CALL	CALL	CALL	CALL	

LEVEL 2 SOUND ENCLOSURE

	L	W	H	WT	dBA*
NO TANK	269.5	70.9	96.1	12789	76
8	269.5	70.9	112.1	16703	
12	269.5	70.9	117.4	16883	
24	269.5	70.9	125.2	17803	
36	269.5	70.9	135.5	18303	
48	CALL	CALL	CALL	CALL	
72	CALL	CALL	CALL	CALL	
96	CALL	CALL	CALL	CALL	

*All measurements are approximate and for estimation purposes only. Weights are without fuel in tank. Sound levels measured at 23ft (7m). Does not account for ambient site conditions.

Tank Options

MDEQ	OPT
Florida DERM/DEP	OPT
Chicago Fire Code	OPT
IFC Certification	CALL
ULC	CALL

Other Custom Options Available from your Generac Industrial Power Dealer

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.