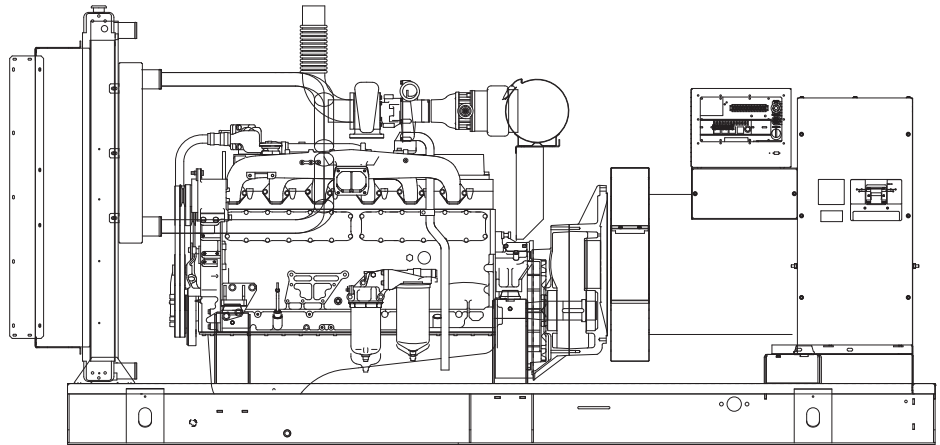


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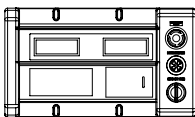
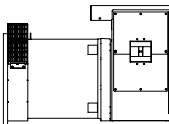
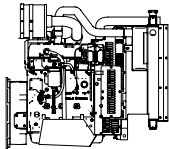
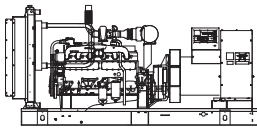
Industrial Gaseous Generator Set

EPA Certified Stationary Emergency

Standby Power Rating
375kVA 300kW 60 Hz



Generator image used for illustration purposes only



features

Generator Set

- PROTOTYPE & TORSIONALLY TESTED
- UL2200 TESTED
- RHINO COAT PAINT SYSTEM
- WIDE RANGE OF ENCLOSURES

Engine

- EPA COMPLIANT
- INDUSTRIAL TESTED
- POWER-MATCHED OUTPUT
- INDUSTRIAL GRADE

Alternator

- TWO-THIRDS PITCH
- LAYER WOUND ROTOR & STATOR
- CLASS H MATERIALS
- DIGITAL 3-PHASE VOLTAGE CONTROL

Controls

- ENCAPSULATED BOARD W/ SEALED HARNESS
- 4-20mA VOLTAGE-TO-CURRENT SENSORS
- SURFACE-MOUNT TECHNOLOGY
- ADVANCED DIAGNOSTICS & COMMUNICATIONS

benefits

- ▶ PROVIDES A PROVEN UNIT
- ▶ ENSURES A QUALITY PRODUCT
- ▶ IMPROVES RESISTANCE TO ELEMENTS
- ▶ PROVIDES A SINGLE SOURCE SOLUTION

- ▶ ENVIRONMENTALLY FRIENDLY
- ▶ ENSURES INDUSTRIAL STANDARDS
- ▶ ENGINEERED FOR PERFORMANCE
- ▶ IMPROVES LONGEVITY AND RELIABILITY

- ▶ ELIMINATES HARMFUL 3RD HARMONIC
- ▶ IMPROVES COOLING
- ▶ HEAT TOLERANT DESIGN
- ▶ FAST AND ACCURATE RESPONSE

- ▶ EASY, AFFORDABLE REPLACEMENT
- ▶ NOISE RESISTANT 24/7 MONITORING
- ▶ PROVIDES VIBRATION RESISTANCE
- ▶ HARDENED RELIABILITY

primary codes and standards



G300LG

application and engineering data

ENGINE SPECIFICATIONS

General

EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	6
Type	Inline
Displacement - L	13.3
Bore - mm (in.)	136.91 (5.39)
Stroke - mm (in.)	150.11 (5.91)
Compression Ratio	10.5:1
Intake Air Method	Turbocharged/Aftercooled
Number of Main Bearings	7
Connecting Rods	Carbon Steel
Cylinder Head	Cast Iron, Overhead Valve
Cylinder Liners	Wet, Replaceable
Ignition	Altronic CD1
Pistons	Heat Resistant Alloy
Crankshaft	Die-Forged Carbon Steel
Lifter Type	Solid
Intake Valve Material	Special Heat-Resistant Steel
Exhaust Valve Material	Iconel Alloy, High Temp
Hardened Valve Seats	High Temp Alloy Stellite Faced

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-Flow, Cartridge
Crankcase Capacity - L (qts)	27 (28.5)

Cooling System

Cooling System Type	Pressurized, Closed Recovery
Water Pump Flow	54 gal/min
Fan Type	Puller
Fan Speed (rpm)	1632
Fan Diameter mm (in.)	990 (39)
Coolant Heater Wattage	2000
Coolant Heater Standard Voltage	240VAC

Fuel System

Fuel Type	Natural Gas
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure	11" - 15" H ₂ O

Engine Electrical System

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

ALTERNATOR SPECIFICATIONS

Standard Model	520mm
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	< 5%
Telephone Interference Factor (TIF)	< 50
Standard Excitation	Permanent Magnent
Bearings	Sealed Ball
Coupling	Gear Drive
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes

Voltage Regulator Type	Full Digital
Number of Sensed Phases	3
Regulation Accuracy (Steady State)	± 0.25%

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	± 0.25%

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

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%)

G300LG

operating data (60Hz)

POWER RATINGS (kW)

	Natural Gas	
Three-Phase 120/208VAC @0.8pf	300 kW	Amps: 1041
Three-Phase 120/240VAC @0.8pf	300 kW	Amps: 902
Three-Phase 277/480VAC @0.8pf	300 kW	Amps: 451
Three-Phase 346/600VAC @0.8pf	300 kW	Amps: 361

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	300	303	454	605	757	908	1059	227	341	454	568	681	794

FUEL

Fuel Consumption Rates*

Natural Gas		
Percent Load	ft ³ /hr	m ³ /hr
25%	1671	47.3
50%	2162	61.2
75%	3048	86.3
100%	3939	111.5

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

COOLING

Air Flow (inlet air combustion and radiator)	ft ³ /min (m ³ /min)	20,400 (577.7)
System Coolant Capacity	Gal (Liters)	15 (56.8)
Heat Rejection to Coolant	BTU/hr	1,024,140
Max. Operating Air Temp on Radiator	°F (°C)	122 (50)
Max. Ambient Temperature	°F (°C)	104 (40)
Maximum Radiator Backpressure	"H ₂ O	1.50

COMBUSTION AIR REQUIREMENTS

Flow at Rated Power cfm

ENGINE

Rated Engine Speed	rpm	2300
Horsepower at Rated kW**	hp	454
Piston Speed	ft/min	2262
BMEP	psi	203.5

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

EXHAUST

Exhaust Flow (Rated Output)	cfm (m ³ /min)	4335 (122.8)
Max. Backpressure (Post Silencer)	inHg	1.5
Exhaust Temp (Rated Output)	°F (°C)	1490 (810)
Exhaust Outlet Size (Open Set)	in	5.0"

G300LG

standard features and options

GENERATOR SET

● Genset Vibration Isolation	Std
○ IBC Seismic Certified/Seismic Rated Vibration Isolators	Opt
○ Steel Enclosure	Opt
○ Aluminum Enclosure	Opt
○ Enclosure Lighting Kits	Opt

ENGINE SYSTEM

General

● Oil Drain Extension	Std
○ Oil Heater	Opt
○ Critical Exhaust Silencer (Enclosed Sets)	Opt
● Stainless steel flexible exhaust connection	Std
● Air cleaner	Std
● Fan guard	Std
● Radiator duct adapter	Std

Fuel System

● Fuel lockoff solenoid	Std
● Secondary Fuel Regulator	Std
○ Flexible fuel lines	Opt

Cooling System

○ 120VAC Coolant Heater	Opt
○ 208VAC Coolant Heater	Opt
● 240VAC Coolant Heater	Std
○ Other Coolant Heater	Opt
● 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 heater	Opt
● Solenoid activated starter motor	Std
○ 10A UL float/equalize battery charger	Opt
● Rubber-booted engine electrical connections	Std

ALTERNATOR SYSTEM

● UL2200 GENprotect	Std
○ Main Line Circuit Breaker	Opt
○ 2nd Circuit Breaker	Opt
○ 3rd Circuit Breaker	Opt
○ Alternator Upsizing	Opt
○ Anti-Condensation Heater	Opt
○ Tropical coating	Opt
● Permanent Magnet Generator	Std

CONTROL SYSTEM

Control Panel

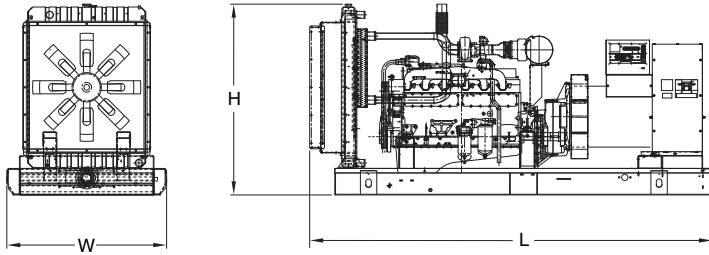
● Digital H-Panel Controller	Std
● Programmable Crank Limiter	Std
● Programmable Crank Limiter	Std
○ 21-Light Remote Annunciator	Opt
○ Remote Relay Panel (8 or 16)	Opt
● 7-Day Programmable Exerciser	Std
● Special Applications Programmable PLC	Std
● RS-485 Communications	Std
● All-Phase Sensing DVR	Std
● Full System Status	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
● Low Fuel Pressure	Std
● Engine Speed	Std
● Battery Voltage	Std
● Frequency	Std
● Date/Time Fault History (Event Log)	Std
○ Low-Speed Exercise	Opt
● 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
○ 10A Run Relay	Opt

Alarms (Programmable Tolerances, Pre-Alarms and Shutdowns)

● 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	Opt
● Engine Speed (Pre-programmed Overspeed Shutdown)	Std
● Voltage (Pre-programmed Overvoltage Shutdown)	Std
● Battery Voltage	Std

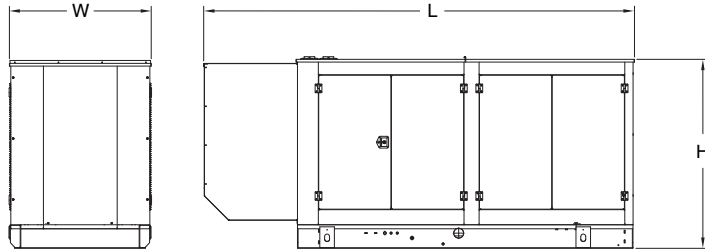
G300LG

dimensions, weights and sound levels



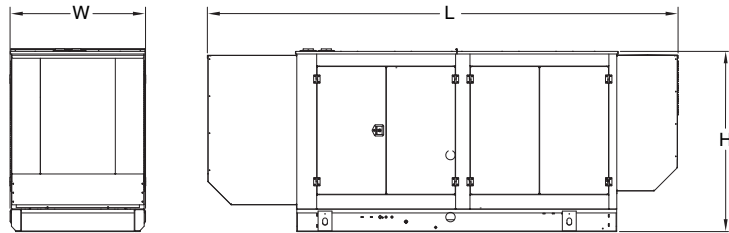
OPEN SET

L	W	H	WT	dBA*
145	58	69	7278	91



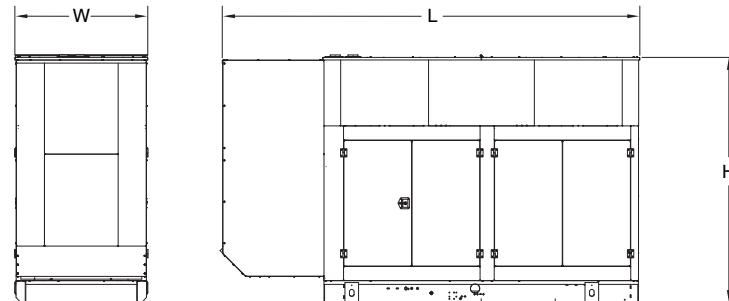
STANDARD ENCLOSURE

L	W	H	WT	dBA*
175	58	78	8578	89



LEVEL 1 ACOUSTIC ENCLOSURE

L	W	H	WT	dBA*
200	58	77	8770	82



LEVEL 2 ACOUSTIC ENCLOSURE

L	W	H	WT	dBA*
181	58	107	9728	76

*All measurements are approximate and for estimation purposes only. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Cat® Dealer for detailed installation drawings.

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