INDUSTRIAL SPARK-IGNITED GENERATOR SET

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**Standby Power Rating** 50 kW, 63 kVA, 50 Hz



Image used for illustration purposes only

# Codes and Standards

Generac products are designed to the following standards:





UL2200, UL6200, UL1236, UL489



CSA C22.2, ULC S601



BS5514 and DIN 6271



**SAE J1349** 



NFPA 37, 70, 99, 110



NEC700, 701, 702, 708

# **FEATURES**

Honny ensures superior quality by designing and manufacturing most of its generator components, such as alternators, enclosures, control systems and communications software. Honny also makes its own spark-ignited engines, and you'll find them on every Honny gaseous-fueled generator. We engineer and manufacture them from the block up — all at our facilities throughout China. Applying natural gas and LP-fueled engines to generators requires advanced engineering expertise to ensure reliability, durability and necessary performance. By designing specifically for these dry, hotter-burning fuels, the engines last longer and require less maintenance. Building our own engines also means we control every step of the supply chain and delivery process, so you benefit from singlesource responsibility.

Plus, Honny Company Limited's distribution network provides all parts and service so you don't have to deal with third-party suppliers. It all leads to a positive owner experience and higher confidence level. Honny spark-ignited engines give you more options in commercial and industrial generator applications as well as extended run time from utility-supplied natural gas.

# **Generators**

#### **STANDARD FEATURES**

#### **ENGINE SYSTEM**

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- · Factory Filled Oil and Coolant
- · Radiator Duct Adapter (Open Set Only)
- Critical Silencer/Catalyst

#### **Fuel System**

- · Fuel Connection on Frame
- · Primary and Secondary Fuel Shutoff

#### Cooling System

- · Closed Coolant Recovery System
- · Resistant Hoses
- · Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- · Radiator Drain Extension

# **Electrical System**

- · Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- · Solenoid Activated Starter Motor

#### **ALTERNATOR SYSTEM**

- Main Line Circuit Breaker
- Fault Protector
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed Bearings
- · Amortisseur Winding
- · Full Load Capacity Alternator

#### **GENERATOR SET**

- Internal Genset Vibration Isolation
- · Separation of Circuits High/Low Voltage
- · Separation of Circuits Multiple Breakers
- Wrapped Exhaust Piping
- · Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Units Only)
- Ready to Accept Full Load in <10 Seconds

#### **ENCLOSURE (If Selected)**

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuated Enclosures)
- Gasketed Doors
- Stamped Air-Intake Louvers
- Upward Facing Discharge Hood (Radiator and Exhaust)
- · Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- Textured Polyester Powder Coat

#### **CONTROL SYSTEM**



#### Digital Control Panel UK-DSE

## **Program Functions**

- Programmable Crank Limiter
- · Programmable Exerciser
- Programmable Logic Controller
- RS-232/485 Communications
- All Phase Sensing Digital Voltage Regulator
- · 2-Wire Start Capability

- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop
- Programmable
- · Customizable Alarms, Warnings, and Events
- Modbus® Protocol
- · Predictive Maintenance Algorithm
- · Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground
- 16 Channel Remote Trending
- 0.2 Msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

#### **Full System Status Display**

- Power Output (kW)
- Power Factor

- · kW Hours, Total, and Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency

#### **Alarms and Warnings**

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Low Fuel Pressure
- Engine Overspeed
- Battery Voltage
- · Alarms and Warnings Time and Date Stamped
- Snap Shots of Key Operation Parameters During Alarms and Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)

# PARALLELING CONTROLS (If Selected)

- 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 Controls
- Shunt Trip and Auxiliary Contact



# NG50 | 4.5L | 50 kW

### INDUSTRIAL SPARK-IGNITED GENERATOR SET

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# **||** | Generators

#### **CONFIGURABLE OPTIONS**

#### **ENGINE SYSTEM**

- O Engine Block Heater
- Oil Heater
- O Air Filter Restriction Indicator
- Radiator Stone Guard (Open Set Only)
- O Baseframe Cover/Rodent Guard
- O Level 1 Fan and Belt Guards (Enclosed Units Only)
- O Shipped Loose Critical Silencer (Open Set Only)

#### **FUEL SYSTEM**

O Flexible Fuel Line

#### **ELECTRICAL SYSTEM**

- O Battery Charger
- O Battery Wires

#### **ALTERNATOR SYSTEM**

- Alternator Upsizing
- O Anti-Condensation Heater
- O Tropical Coating

#### **CIRCUIT BREAKER OPTIONS**

- O 2nd Main Line Circuit Breaker
- O Shunt Trip and Auxiliary Contact
- O Electronic Trip Breakers

#### **GENERATOR SET**

- Demand Response Rating
- Extended Factory Testing (3-Phase Only)
- O IBC Seismic Certification
- O 12 Position Load Center

#### WEATHER PROTECTED ENCLOSURE

- O Weather Protected Enclosure
- O Level 1 Sound Attenuated
- O Level 2 Sound Attenuated
- O Level 2 Sound Attenuated with Motorized Dampers
- O Steel Enclosure
- O Aluminum Enclosure
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- O AC/DC Enclosure Lighting Kit
- O Enclosure Heaters
- O Door Open Alarm Switch

#### **CONTROL SYSTEM**

- NFPA 110 Compliant Level 1 21-Light Remote Annunciator
- O Remote Relay Assembly (8 or 16)
- O Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- O Remote E-Stop (Red Mushroom-Type, Flush Mount)
- O 10A Engine Run Relay
- O Ground Fault Annunciator
- O 100 dB Alarm Horn
- O Damper Alarm Contacts (Motorized Dampers Only)
- O 120V GFCI and 240V Outlets
- O Auxiliary Circuit Breaker Contacts to Controller

### WARRANTY (Standby Gensets Only)

- O 2 Year Extended Limited Warranty
- 5 Year Limited Warranty
- 5 Year Extended Limited Warranty
- O 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

### **ENGINEERED OPTIONS**

#### **ENGINE SYSTEM**

Fluid Containment Pans

#### **CONTROL SYSTEM**

O Battery Disconnect Switch

#### **ALTERNATOR SYSTEM**

O 3rd Breaker System

#### **GENERATOR SET**

- O Special Testing
- O Battery Box

# NG50 | 4.5L | 50 kW

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# **APPLICATION AND ENGINEERING DATA**

## **ENGINE SPECIFICATIONS**

## General

Make	Honny
Cylinder #	4
Туре	In-Line
Displacement - in3 (L)	275.0 (4.5)
Bore: in (mm)	4.5 (114.3)
Stroke: in (mm)	4.25 (107.95)
Compression Ratio	9.1:1
Intake Air Method	Turbocharged
Number of Main Bearings	5
Connecting Rods	Forged Steel, Fractured Split, Bushingless
Cylinder Head	Cast Iron
Cylinder Liners	Cast Iron
Ignition	Coil Near Plug Solid State Inductive
Piston Type	Cast Aluminum Flat Top
Crankshaft Type	Forged Steel
Lifter Type	Hydraulic Roller
Intake Valve Material	Stainless Steel
Exhaust Valve Material	Stainless Steel
Hardened Valve Seats	High Steel Iron Alloy

# **Engine Governing**

Governor	Electronic
Frequency Regulation (Steady State)	0.25

# **Lubrication System**

Oil Pump	Gear Driven
Oil Filter Type	Full Flow Spin-On Cartridge
Engine Oil Capacity: qt (L)	21 (20)

# **Cooling System**

Cooling System Type	Pressurized Closed
Fan Type	Pusher
Fan Speed (rpm)	2,100
Fan Diameter - in (mm)	22 (533)

# Fuel System

Fuel Type	Natural Gas, Propane
Fuel Injection	Electronic
Fuel Shutoff	Generac
Operating Fuel Pressure (NG) - in H <sub>2</sub> O (kPa)	5 - 14 (1.2 - 3.5)
Operating Fuel Pressure (LP) - in H <sub>2</sub> O (kPa)	7 - 14 (1.7 - 3.5)

# **Engine Electrical System**

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative (-)

# **ALTERNATOR SPECIFICATIONS**

Standard Model	K0080124Y12
Poles	4
Field Type	Revolving
Insulation Class — Rotor	Н
Insulation Class — Stator	Н
Total Harmonic Distortion (THD)	<5%
Telephone Interference Factor (TIF)	<50

Standard Excitation	Brushless Excitation
Bearings	Sealed Ball
Coupling	Direct via Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

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## **OPERATING DATA**



## **POWER RATINGS NATURAL GAS/PROPANE VAPOR**

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Single-Phase 120/240 VAC @1.0pf	50 kW/50 kVA	Amps: 208
Three-Phase 120/208 VAC @0.8pf	50 kW/63 kVA	Amps: 174
Three-Phase 120/240 VAC @0.8pf	50 kW/63 kVA	Amps: 151
Three-Phase 277/480 VAC @0.8pf	50 kW/63 kVA	Amps: 75
Three-Phase 346/600 VAC @0.8pf	50 kW/63 kVA	Amps: 60

# STARTING CAPABILITIES (SKVA)

#### sKVA vs. Voltage Dip

120/240 VAC 1Ø	30%	277/480 VAC 3Ø	•	30%	208/240 VAC 3Ø	30%
A0080044N12	31	K0080124Y12		98	K0045124Y12	75
A0130044N12	58	K0100124Y12		172	K0060124Y12	132

## **FUEL CONSUMPTION RATES\***

Natural Gas -	scfh (m³/hr) Propane Vapor – scfh (m³/hr) Propane Liquid – gph (Lph		Propane Vapor – scfh (m³/hr)		id – gph (Lph)
Percent Load	Standby	Percent Load	Standby	Percent Load	Standby
25%	201 (5.7)	25%	50 (1.4)	25%	1.8 (6.9)
50%	352 (10.0)	50%	124 (3.5)	50%	3.7 (13.9)
75%	506 (14.3)	75%	193 (5.5)	75%	5.5 (20.8)
100%	665 (18.8)	100%	258 (7.3)	100%	7.3 (27.8)
*Fuel supply installation must accommodate fuel consumption rates at 100% load.					

# **COOLING**

		Standby
Air Flow (Fan Air Flow Across Radiator) - Open Set	cfm (m3/min)	4,343 (123)
Coolant Flow	gpm (Lpm)	24 (90)
Coolant System Capacity	gal (L)	9 (34)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Dera	te)	See Bulletin No. 0199270SSD
Maximum Radiator Backpressure	in H20 (kPa)	0.5 (0.12)

## **COMBUSTION AIR REQUIREMENTS**

Flow at Rated Power cfm (m<sup>3</sup>/min)

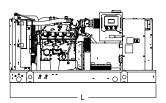
Standby 117 (3.3)

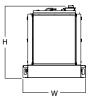
ENGINE EXHAUST

		Standby	
Rated Engine Speed: RPM	rpm	1,500	
Horsepower at Rated kW**	hp	82	
Piston Speed	ft/min (m/ min)	1,275 (389)	
BMEP	psi (kPa)	137 (945)	

		Standby
Exhaust Flow (Rated Output)	cfm (m3/ min)	279 (7.9)
Maximum Exhaust Back pressure	in Hg (Kpa)	0.75 (2.54)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1,305 (707)

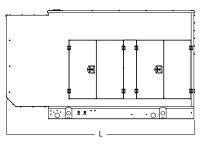
## **DIMENSIONS AND WEIGHTS\***

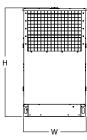




#### **OPEN SET (Includes Exhaust Flex)**

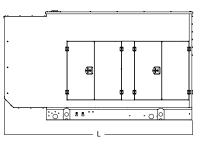
L x W x H - in (mm)	92.9 (2,360) x 39.9 (1,014) x 46.0 (1,170)
Weight lbs (kg)	1,845 - 1,856 (837 - 842)

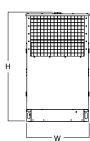




#### **WEATHER PROTECTED ENCLOSURE**

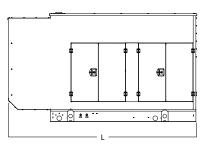
L x W x H - in (mm)	120.8 (3,068) x 40.5 (1,028) x 69.0 (1,754)
Weight lbs (kg)	Steel: 2,584 - 2,596 (1,172 - 1,177) Aluminum: 2,232 - 2,244 (1,013 - 1,018)

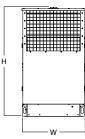




#### **LEVEL 1 ACOUSTIC ENCLOSURE**

LEVEL I ACCOUNTS ENGLS	JOURE
L x W x H - in (mm)	120.8 (3,068) x 40.5 (1,028) x 69.0 (1,754)
Weight lbs (kg)	Steel: 2,675 - 2,687 (1,213 - 1,219) Aluminum: 2,323 - 2,335 (1,054 - 1,059)





#### **LEVEL 2 ACOUSTIC ENCLOSURE**

L x W x H - in (mm)	120.8 (3,068) x 40.5 (1,028) x 69.0 (1,754)
Weight lbs (kg)	Steel: 2,753 - 2,765 (1,249 - 1,254) Aluminum: 2,380 - 2,391 (1,079 - 1,085)

Specification characteristics may change without notice. Please consult www.honny.com for detailed installation drawings.

<sup>\*</sup> All measurements are approximate and for estimation purposes only.