

SOLICITATION FOR BIDS

Sealed Proposals will be received by the City Clerk, at Choctaw City Hall, located at 2500 North Choctaw Road, Choctaw, OK, or mail to P. O. Box 567, NLT 4:00 p.m., CDST, 6 January 2010, for the following project to purchase and the installation of the following equipment to include but not limited to concrete pads, gas lines, electric panels, and transfer switches:

- A. 1 – Guardian SD100 or equivalent generator – 100KW 60Hz liquid cooled diesel generator, with 24 hour fuel tank, for installation at Ten Acre Lake water well.
- B. 2 – Guardian QT045 or equivalent generator – 45KW 60Hz liquid cooled natural gas engine, for installation at 2373 South Indian Meridian water well, and 13485 East Reno.
- C. 1 – Guardian QT025 or equivalent generator – 25KW 60 Hz liquid cooled natural gas engine, for installation at Northeast 36th and Elizabeth water well.
- D. 1 – Guardian QT060 or equivalent generator – 60KW 60Hz liquid cooled natural gas engine, for installation at 16501 Enterprise water well.
- E. 1 – Guardian Elite or equivalent generator – 20 KW 60 Hz air cooled natural gas engine, for installation at 904 Pacific.

At which time said bids will be received for furnishing of said equipment as listed above to accomplish the same.

Bids received more than ninety-six (96) hours, excluding Saturdays, Sundays and holidays, before the time set for opening said bids, as well as bids received after the time set for opening bids, will not be considered and will be returned unopened. Bids will be publicly opened and read aloud at the above-mentioned address by staff for recommendation for award to the City Council at a regular meeting, which meeting begins at 7 p.m., 12 January 2010; with an award date on or before 26 January 2010.

The City of Choctaw reserves the right to reject any or all bids. The time period within which a purchase order or contract will be executed following the Award to the successful bidder by the City Council is ten (10) days. Delivery of said equipment as listed on the bid form.

A complete set of specifications are hereby attached and made part of the bid package. Any substitutions, a full set of specifications will be attached and submitted with bid. All questions should be addressed to Loren Bumgarner, Choctaw Fire Chief, P.O. Box 567, Choctaw, OK, 73020 or by calling (405)390-3232.

Deliver Seal Bid to: Choctaw City Clerk
Attn: Tracy R. Jordan
2500 N. Choctaw Road
Choctaw, OK 73020

Mail Seal Bid to: Choctaw City Clerk
Attn: Tracy R. Jordan
P.O. Box 567
Choctaw, OK 73020

Submittal Date: 6 January 2010, 4:00 p.m.

CITY OF CHOCTAW BID DOCUMENT



**City of Choctaw
2500 N. Choctaw Road
P.O. Box 567
Choctaw, OK 73020**

GENERATORS

BID OPENING: 6 January 2010
BID RECOMENDATION: 12 January 2010
BID AWARD: On or Before 26 JANUARY 2010

PURPOSE

The work to be performed under this request consists of furnishing labor and materials for the purchase and installation of generators serving the City's water system to include but not limited to concrete pads, gas lines, electric panels, and transfer switches.

BID INFORMATION

A. Project Coordinators:

1. Loren Bumgarner, Fire Chief, firechief@choctawcity.org
 - o Phone: 405.390.3232 Fax: 405.390.8614

B. Bid Schedule and Requirements:

1. Bid Due Date and Time of Opening: All bids shall be submitted prior to **January 6, 2010, 4:00 p.m.**
 - a. Bids received after the time set for opening of bids will not be considered and will be returned unopened. Also, bids received more than ninety-six (96) hours prior to the time set for opening, excluding Saturdays, Sundays and holidays will not be considered. Bids may be filed with the City Clerk's office up to 4:00 p.m. on the above date prior to the Board's meeting on **January 12, 2010, 7 p.m.**
 - b. Proposals shall be sealed in an envelope with the words "**Sealed Bid – Generators**" on the front of the envelope. **All bids shall be submitted**

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**to: The City of Choctaw, c/o City Clerk, 2500 North Choctaw Road,
P.O. Box 567, Choctaw, OK 73020.**

- c. All bid submittals must be made on the proposal forms furnished in this document and must be in accordance with any instructions stated in this document.
 - d. All work will be awarded as a single contract to the lowest responsible bidder.
2. **Bid Opening: All bids received during the submittal period will be opened and evaluated for recommendation prior to the City Council meeting on Tuesday, January 12, 2010 at 7 p.m.**
 3. **Bid Award: Unless otherwise announced, bid award will take place at a meeting of the City Council on or before January 26, 2010.**

C. Acceptance and Rejection of Proposals

1. The City reserves the right to reject any or all proposals and to cancel this bid document at any time.
2. The City reserves the right to waive immaterial defects and minor irregularities in this request.
3. The City reserves the right of evaluation and the right to determine the methodology for evaluation of the proposals to determine which is the best proposal and to accept the proposal (or proposals) deemed to be in the best interest of the City, i.e., the most qualified proposal will not necessarily be the proposal of lowest cost. The City reserves the right to award the bid to any vendor or combination of vendors. The City reserves the right to negotiate with any Bidder as necessary to serve the best interests of the City.
4. The issuance of this bid document does not constitute a commitment by the City to enter into a contract for the completion of this project or to pay any costs incurred by any Bidder in the preparation of their response to this bid document.
5. All proposals will become the property of the City and subject to open records laws. The City reserves the right to make use of any information or ideas in the proposals.
6. Attention is called to the requirement that the successful Bidder must comply with all local, state, and federal laws, regulations and policies applicable to this request unless specifically excluded herein.
7. Bidder should carefully examine the specifications and fully inform themselves as to all conditions and matters on site, which can in any way affect the work or the costs thereof. Should a Bidder find discrepancies in, or omissions from the bid

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document, specifications or other documents, or should be in doubt as to their meanings, he should at once notify the City project coordinator and obtain clarification prior to submitting any proposal.

8. **No pre-bid conference will be required. However, it is recommended that all bidders make site visits to familiarize themselves with the nature and location of the work to be performed before submitting bids.**
9. Proposals will be reviewed and evaluated by City project coordinators, which will then make recommendations to the City Council.
10. Proposals received after the due date and time will not be accepted. Also, bids received more than ninety-six (96) hours prior to the time set for opening, excluding Saturdays, Sundays and holidays will not be considered.
11. It is the responsibility of the bidder to ensure their bid is received in time. No consideration will be given to postal or other delays. Bids cannot be altered by phone, email or other means. Bidders may withdraw their bid by written request before the scheduled closing time for receipt of bids.
12. No contract shall be signed unless the City has accepted all required bonds and insurance certificates.
13. The City, based on the vendor and the proposal, may require additional provisions before awarding the contract.
14. The successful bidder will be responsible for any work or service performed by any sub-contractors used by the bidder.
15. The City accepts no responsibility for payment to subcontractors or consultants and the successful Bidder assumes any and all sub-contractual responsibilities within their proposal.

D. BOND AND INSURANCE REQUIREMENTS

1. **Bid Bond:** Each proposal must be accompanied by a bidder's surety bond, a certified check, or a cashier's check upon any solvent Bank or Trust Company, payable without reserve to the City of Choctaw, in an amount not less than five percent [5%] of the total amount of the bid. Bid security of the two [2] low bidders will be retained until approval of contract and execution of satisfactory bonds by the successful bidder or until other disposition of the bids are made.
2. **Performance Bond:** A performance bond in the full amount of the contract will be required. The Performance Bond shall be submitted prior to contract signing.
3. **Workers Compensation Insurance:** Successful bidder shall provide proof of workers compensation insurance in sufficient amounts. This proof must be

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submitted at time of contract signing and must remain in full force for the duration of the project.

4. **General Liability and Vehicle Liability Insurance:** Successful bidder shall provide proof of public liability and vehicle liability insurance in sufficient amounts. This proof must be submitted at time of contract signing and must remain in force for the duration of the project.

E. Contract Signing and Completion of Work.

1. The successful bidder must enter into a contract with the City within thirty [30] days of the award date.
2. After contract signing, the City will issue the Contractor a Notice to Proceed. The Contractor will be **required to commence and complete the work within the days noted below unless otherwise agreed to by the City and the Contractor in writing.**
 - a. Commence Work: Ten [10] days after the Notice to Proceed date.
 - b. Complete Work: Ninety [90] days after the Notice to Proceed date.
3. This bid document and the Bidder's response shall become part of the contract covering this project.

F. Warranties

1. Successful bidder shall guarantee workmanship with at least a one [1] year warranty from the date of completion of the contract. This warranty shall commence on the date of acceptance by the City.

G. Payment of Invoices

1. All invoices submitted to the City for work performed shall be approved by the City project coordinators. No invoice shall be paid unless approved.
2. A retainage amount of ten [10%] percent shall be withheld from each pay request. Once the project is fifty [50%] percent complete, the retainage shall be reduced to five percent [5%] of the amount earned to date. If the project only requires one pay request, the one [1] payment will be made less ten [10%] percent retainage, unless the City has approved all work completed as stated in this bid document. If the City has approved all aspects of the project, the one [1] payment shall represent one-hundred [100%] percent of the contract amount.

BID SPECIFICATIONS – WATER WELL GENERATORS

General Specifications:

- Purchase of the following equipment:
 - 1-Guardian SD100 or equivalent generator – 100KW 60Hz liquid cooled diesel engine, with 24 hour fuel tank, for installation at Ten Acre Lake water well.
 - 2-Guardian QT045 or equivalent generator – 45KW 60Hz liquid cooled natural gas engine, for installation at 2373 South Indian Meridian water well and 13485 East Reno.
 - 1-Guardian QT025 or equivalent generator – 25KW 60Hz liquid cooled natural gas engine, for installation at Northeast 36th & Elizabeth water well.
 - 1-Guardian QT060 or equivalent generator – 60KW 60Hz liquid cooled natural gas engine, for installation at 16501 Enterprise water well.
 - 1-Guardian Elite or equivalent generator – 20KW 60Hz air cooled natural gas engine, for installation at 904 Pacific.
- Detailed specifications are attached and made a part of this bid document.
- Copies of Bonding and Insurance shall be provided with bid tabulation sheets.

Option “A”. “Electrical Update and Security”:

- Installation of generator at 904 Pacific will include the cost to bring the electric service up to current Code.
- Provide security cage or anti-theft device for this generator

Note: *Any required items not accompanying the bid may cause a bid to be rejected.

Bid Submittal Checklist

These forms/items are required to be submitted with your bid package. All bids must be submitted by date and time as specified in this document.

- a. _____ Attachment A -Bidder Contact Information
- b. _____ Attachment B -Bidder Business References
- c. _____ Attachment C –Affidavit of Bidder
- d. _____ Attachment D –Bid Form
- e. _____ Attachment E –Non Collusion Affidavit
- f. _____ Bid Bond of 5% as specified in this document
- g. _____ Company Information (optional)

****Bids received without bid bond or references
will not be considered****

Attachment A - Bidder Contact Information

Bidder Full Company Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

Website: _____

State of Incorporation (if applicable): _____

Company Contact Information

Primary Contact

Name printed: _____

Title: _____

Phone: _____ Fax: _____

Cell Phone: _____

Email: _____

Alternate Contact

Name printed: _____

Title: _____

Phone: _____ Fax: _____

Cell Phone: _____

Email: _____

Attachment B - Bidder Business References

Company: _____

Address: _____

City / State / Zip: _____

Contact: _____ Phone: _____

Company: _____

Address: _____

City / State / Zip: _____

Contact: _____ Phone: _____

Company: _____

Address: _____

City / State / Zip: _____

Contact: _____ Phone: _____

Company: _____

Address: _____

City / State / Zip: _____

Contact: _____ Phone: _____

Company: _____

Address: _____

City / State / Zip: _____

Contact: _____ Phone: _____

Attachment C - Affidavit of Bidder

State of _____

County of _____

_____ of lawful age, being first
duly sworn, on oath says that (s)he is the agent authorized by the bidder to submit
the attached bid.

(Signature Agent Authorized by Bidder) (Name Printed)

(Complete Legal Name of Bidder)

Subscribed and sworn to before me this _____ day of _____,
20_____.

Notary Public

My Commission Expires: _____ Commission Number: _____

Date

Attachment D - Bid Form

The bidder will furnish labor and materials for the purchase and installation of generators to serve the City's water system as stated in this document for the sum of:

Purpose: Purchase 1 – diesel engine, liquid cooled, 4 - natural gas engine, liquid cooled, and 1 – natural gas engine, air cooled generators.

A. ITEMS:

1. 1 – Guardian SD100 or equivalent generator - 100KW 60Hz Liquid Cooled Diesel Engine Generator

Per Unit	Total
\$ _____	\$ _____

Additional Options (even if included above):

a. _____	\$ _____
b. _____	\$ _____

Other options recommended by bidder (state desirability):

a. _____	\$ _____
b. _____	\$ _____

2. 2 – Guardian QT045 or equivalent generator – 45KW 60Hz Liquid Cooled Natural Gas Engine

Per Unit	Total
\$ _____	\$ _____

Additional Options (even if included above):

a. _____	\$ _____
b. _____	\$ _____

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Other options recommended by bidder (state desirability):

- a. _____ \$ _____
- b. _____ \$ _____

3. 1- Guardian QT025 or equivalent generator – 25KW 60Hz Liquid Cooled Natural Gas Engine

Per Unit	Total
\$ _____	\$ _____

Additional Options (even if included above):

- a. _____ \$ _____
- b. _____ \$ _____

Other options recommended by bidder (state desirability):

- a. _____ \$ _____
- b. _____ \$ _____

4. 1 – Guardian QT060 or equivalent generator - 60KW 60Hz Liquid Cooled Natural Gas Engine

Per Unit	Total
\$ _____	\$ _____

Additional Options (even if included above):

- a. _____ \$ _____
- b. _____ \$ _____

Other options recommended by bidder (state desirability):

- a. _____ \$ _____
- b. _____ \$ _____

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5. 1 – Guardian Elite or equivalent generator - 20KW 60Hz Air Cooled Natural Gas Engine

Per Unit	Total
\$ _____	\$ _____

Additional Options (even if included above):

a. _____ \$ _____

b. _____ \$ _____

Other options recommended by bidder (state desirability):

a. _____ \$ _____

b. _____ \$ _____

B. TOTAL PURCHASE BID PRICE: \$ _____

C. Initial warranty period: _____

D. Anticipated delivery time after order: _____ days

E. Deviances from specifications (if any): _____

F. Date of Bid: _____

G. Other considerations: _____

Attachment E - Non Collusion Affidavit

Non Collusion Affidavit

A notarized sworn statement shall be attached to any competitive bid submitted to the City of Choctaw, Oklahoma for goods or services, which shall be in substantially the following form:

CITY OF CHOCTAW, OKLAHOMA COUNTY, OKLAHOMA

_____, of lawful age, being first duly sworn, on oath says:

1. (S)He is the duly authorized agent of _____, the bidder submitting the competitive bid which is attached to this statement, for the purpose of certifying the facts pertaining to the existence of collusion among bidders and between bidders and City officials or employees, as well as facts pertaining to the giving or offering of things of value to government personnel in return for special consideration in the letting of any contract pursuant to the bid to which this statement is attached;
2. (S)He is fully aware of the facts and circumstances surrounding the making of the bid to which this statement is attached and has been personally and directly involved in the proceedings leading to the submission of such bid; and
3. Neither the bidder nor anyone subject to the bidder's direction or control has been a party:
 - a. to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding,
 - b. to any collusion with any City official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract, nor
 - c. in any discussions between bidders and any City official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

(Signature)

Subscribed and sworn to before me this _____ day of _____, 20_____.

Notary Public

My commission expires on: _____ Commission Number: _____

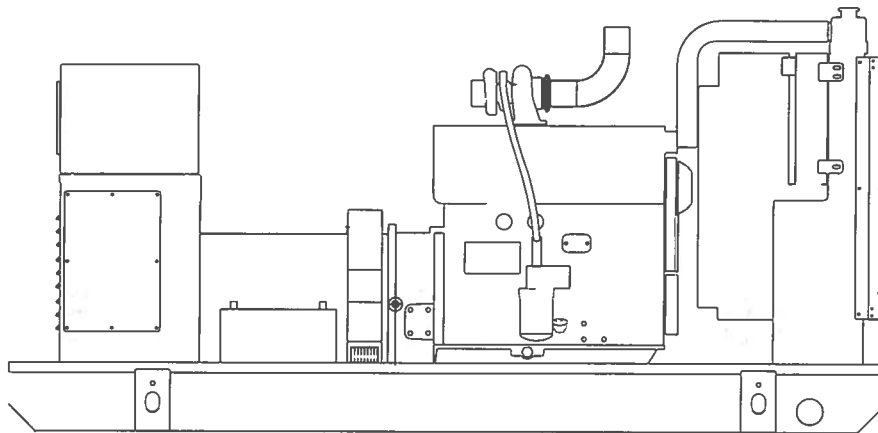
(date) _____

SD100

Liquid Cooled Diesel Engine Generator Sets

Standby Power Rating
100KW 60 Hz

Prime Power Rating
91KW 60 Hz



Power Matched
GENERAC 4.5DTA ENGINE
Turbocharged Aftercooled
Tier III Compliant

FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **TEST CRITERIA:**
 - ✓ PROTOTYPE TESTED
 - ✓ SYSTEM TORSIONAL TESTED
 - ✓ ELECTRO-MAGNETIC INTERFERENCE
 - ✓ NEMA MG1 EVALUATION
 - ✓ MOTOR STARTING ABILITY
 - ✓ SHORT CIRCUIT TESTING
 - ✓ UL 2200 LISTED
- **SOLID-STATE, FREQUENCY COMPENSATED DIGITAL VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own a GENERAC POWER SYSTEM.
- **ECONOMICAL DIESEL POWER.** Low cost operation due to modern diesel engine technology. Better fuel utilization plus lower cost per gallon provide real savings.
- **LONGER ENGINE LIFE.** Generac heavy-duty diesels provide long and reliable operating life.
- **GENERAC TRANSFER SWITCHES, SWITCHGEAR AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, switchgear and controls for total system compatibility.

GENERAC®

APPLICATION & ENGINEERING DATA

SD100

GENERATOR SPECIFICATIONS

TYPE	Four-pole, revolving field
ROTOR INSULATION	Class H
STATOR INSULATION	Class H
TOTAL HARMONIC DISTORTION	<3%
TELEPHONE INTERFERENCE FACTOR (TIF)	<50
ALTERNATOR	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED)	1
COUPLING	Direct, Flexible Disc
LOAD CAPACITY (STANDBY)	100%
LOAD CAPACITY (PRIME)	110%

NOTE: Emergency loading in compliance with NFPA 99, NFPA 110. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN6271 standards.

VOLTAGE REGULATOR

TYPE	Full Digital
SENSING	3 Phase
REGULATION	± 1/4%
FEATURES	Built into H-100 Control Panel, V/F Adjustable Adjustable Voltage and Gain

GENERATOR FEATURES

- Revolving field heavy duty generator
- Quiet drive coupling
- Operating temperature rise 120°C above a 40°C ambient
- Insulation is Class H rated at 150°C rise
- All prototype models have passed three phase short circuit testing

CONTROL PANEL FEATURES

- TWO FOUR LINE LCD DISPLAYS READ:
 - Voltage (all phases)
 - Power factor
 - kVAR
 - Engine speed
 - Run hours
 - Fault history
 - Coolant temperature
 - Low oil pressure shutdown
 - Overvoltage
 - Low coolant level
 - Exercise speed
 - Not in auto position (flashing light)
 - Current (all phases)
 - kW
 - Transfer switch status
 - Low fuel pressure
 - Service reminders
 - Oil pressure
 - Time and date
 - High coolant temp shutdown
 - Overspeed
 - Low coolant level
 - ATS selection
- INTERNAL FUNCTIONS:
 - I²T function for alternator protection from line to neutral and line to line short circuits
 - Emergency stop
 - Programmable auto crank function
 - 2 wire start for any transfer switch
 - Communicates with the Generac HTS transfer switch
 - Built-in 7 day exerciser
 - Adjustable engine speed at exerciser
 - RS232 port for GenLink[®] control
 - RS485 port remote communication
 - Canbus addressable
 - Governor controller and voltage regulator are built into the master control board
 - Temperature range -40°C to 70°C

ENGINE SPECIFICATIONS

MAKE	GENERAC/DEERE
MODEL	See Exhaust Emission Sheet
ENGINE FAMILY	First digit is Cert. Yr. (i.e. 7, 8, 9) _JDXL06.8105
CYLINDERS	4
DISPLACEMENT	4.5 Liter (276 cu.in.)
BORE	106 mm (4.19 in.)
STROKE	127 mm (5.0 in.)
COMPRESSION RATIO	17:1
INTAKE AIR	Turbocharged/Aftercooled
NUMBER OF MAIN BEARINGS	5
CONNECTING RODS	4-Drop Forged Steel
CYLINDER HEAD	Cast Iron
PISTONS	4- Aluminum Alloy
CRANKSHAFT	Die Forged, Induction Hardened Steel

VALVE TRAIN

LIFTER TYPE	Solid
INTAKE VALVE MATERIAL	Heat Resistant Steel
EXHAUST VALVE MATERIAL	Heat Resistant Steel
HARDENED VALVE SEATS	Replaceable

ENGINE GOVERNOR

<input type="checkbox"/> ISOCHRONOUS	Standard
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD	0.5%
STEADY STATE REGULATION	0.25%

LUBRICATION SYSTEM

TYPE OF OIL PUMP	Gear
OIL FILTER	Full flow, Cartridge
CRANKCASE CAPACITY	22 qts.

COOLING SYSTEM

TYPE OF SYSTEM	Pressurized, Closed Recovery
WATER PUMP	Pre-Lubed, Self-Sealing
TYPE OF FAN	Pusher
NUMBER OF FAN BLADES	6
DIAMETER OF FAN	560 mm (22 in.)
COOLANT HEATER	120V, 1800 W

FUEL SYSTEM

FUEL	#2D Fuel (Min Cetane #40) (Fuel should conform to ASTM Spec.)
FUEL FILTER	2 Micron
FUEL INJECTION PUMP	Denso
FUEL PUMP	Mechanical
INJECTORS	Multi-Hole, Nozzle Type
ENGINE TYPE	Direct Injection
FUEL LINE (Supply)	6.35 mm (0.25 in.)
FUEL RETURN LINE	6.35 mm (0.25 in.)
TOTAL FUEL FLOW	20.7 gal./hr.

ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR	65 Amps at 12 V
STARTER MOTOR	12 V
RECOMMENDED BATTERY	12 Volt, 135 A.H., 40CT
GROUND POLARITY	Negative

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

SD100

OPERATING DATA

	STANDBY SD100				PRIME SD100				
	Rated AMP				Rated AMP				
GENERATOR OUTPUT VOLTAGE/KW-60Hz									
120/240V, 1-phase, 1.0 pf	100				417	91	379		
120/208V, 3-phase, 0.8 pf	100				347	91	316		
120/240V, 3-phase, 0.8 pf	100				301	91	274		
277/480V, 3-phase, 0.8 pf	100				150	91	137		
600V, 3-phase, 0.8 pf	100				120	91	109		
NOTE: Consult your Generac dealer for additional voltages.									
MOTOR STARTING KVA									
Maximum at 35% instantaneous voltage dip with standard alternator; 60 Hz	<u>208/240/416V</u>		<u>480V</u>		<u>208/240/416V</u>		<u>480V</u>		
	206		275		206		275		
FUEL									
Fuel consumption—60 Hz	Load	<u>25%</u>	<u>50%</u>	<u>75%</u>	<u>100%</u>	<u>25%</u>	<u>50%</u>	<u>75%</u>	<u>100%</u>
	gal./hr.	2.3	4.3	5.9	7.7	1.9	3.5	5.1	6.3
	liters/hr.	8.7	16.2	22.4	29.0	7.1	13.3	19.4	23.9
Fuel consumption—50 Hz	gal./hr.	1.8	3.4	4.7	6.1	1.5	2.8	4.1	5.0
	liters/hr.	7.0	12.9	17.9	23.2	5.7	10.6	15.5	19.1
Fuel pump lift		36"			36"				
COOLING									
Coolant capacity	System - US gal. (lit.)	5.5 (20.8)			5.5 (20.8)				
	Engine - US gal. (lit.)	3.75 (14.2)			3.75 (14.2)				
Coolant flow/min.	60 Hz - US gal.	38			38				
Heat rejection to coolant 60 Hz full load	BTU/hr.	280,000			252,000				
Inlet air*	60 Hz - cfm (m ³ /min.)	7500 (212.4)			7500 (212.4)				
Max. air temperature to radiator*	° C (°F)	60 (140)			60 (140)				
Max. operating ambient temperature*	° C (°F)	50 (122)			50 (122)				
COMBUSTION AIR REQUIREMENTS									
Flow at rated power	60 Hz - cfm (m ³ /min.)	351 (10.0)			320 (9.1)				
EXHAUST									
Exhaust flow at rated output	60 Hz - cfm (m ³ /min.)	988 (28.0)			880 (24.9)				
Max recommended back pressure	Inches Hg	1.5			1.5				
Exhaust temperature 60 Hz (full load)	° F (°C)	1050 (566)			990 (532)				
Exhaust outlet size		4.0" O.D.			4.0" O.D.				
ENGINE									
Rated RPM	60 Hz	1800 / 1500			1800				
HP at rated KW	60 Hz	158 / 122			144 / 99				
Piston speed	60 Hz - ft./min. (m/min.)	1500 (457)			1500 (457)				
BMEP	60 Hz / psi	248			225				
DERATION FACTORS									
Temperature									
	-4.1% for every 10°C above - °C	40			40				
	-2.3% for every 10°F above - °F	104			104				
Altitude									
	-0.8% for every 100 m above - m	1067			1067				
	-2.5% for every 1000 ft. above - ft.	3500			3500				

* Note: Values given are maximum temperatures to which power adjustments can be applied. Consult your Generac Power Systems representative if operating conditions exceed these maximums.

STANDARD ENGINE & SAFETY FEATURES

SD100

- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain Extension
- Factory-Installed Cool Flow Radiator
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Coolant Heater

- Secondary Fuel Filter
- Fuel Lockoff Solenoid
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation of Unit to Mounting Base
- 12 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console
- Radiator Duct Adaptor

OPTIONS

■ OPTIONAL COOLING SYSTEM ACCESSORIES

- 208/240V Coolant Heater

■ OPTIONAL FUEL ACCESSORIES

- Flexible Fuel Lines
- UL Listed Fuel Tanks
- Base Tank Low Fuel Alarm
- Primary Fuel Filters

■ OPTIONAL EXHAUST ACCESSORIES

- Critical Exhaust Silencer

■ OPTIONAL ELECTRICAL ACCESSORIES

- 2A Battery Charger
- 10A Dual Rate Battery Charger
- Battery, 12 Volt, 135 A.H.

■ OPTIONAL ALTERNATOR ACCESSORIES

- Alternator Upsizing
- Alternator Strip Heater
- Alternator Tropicalization
- Voltage Changeover Switch
- Main Line Circuit Breaker
- PMG

■ CONTROL CONSOLE OPTIONS

- Digital Controller H-100 (Bulletin 0172110SBY)

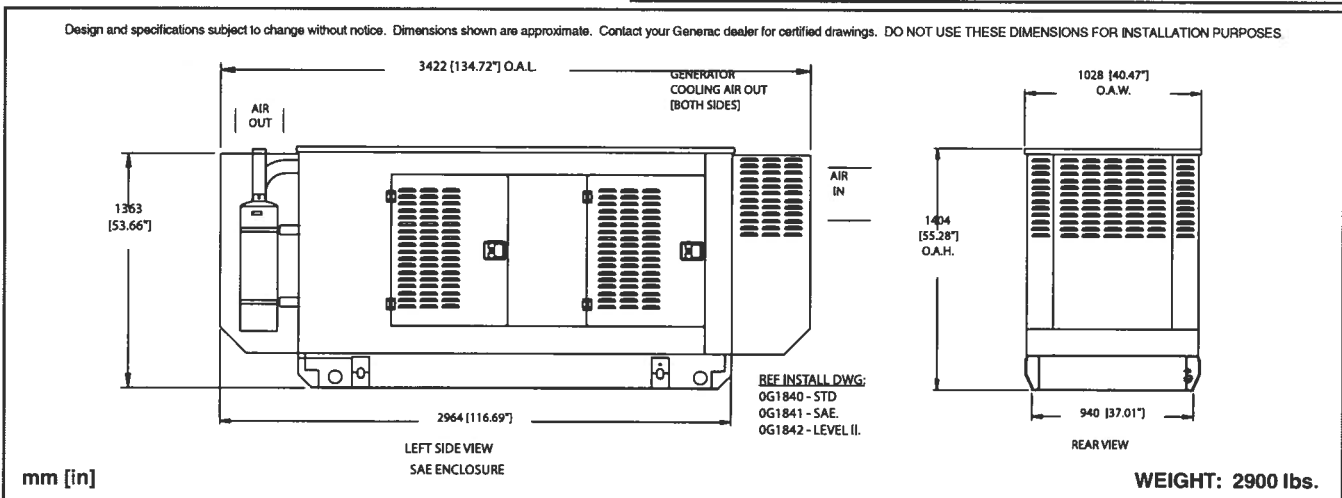
■ ADDITIONAL OPTIONAL EQUIPMENT

- Automatic Transfer Switch
- Isochronous Governor
- 3 Light Remote Annunciator
- 5 Light Remote Annunciator
- 20 Light Remote Annunciator
- Remote Relay Panels
- Unit Vibration Isolators
- Oil Make-Up System
- Oil Heater
- 5 Year Warranties
- Export Boxing
- GenLink® Communications Software

■ OPTIONAL ENCLOSURE

- Weather Protective
- Sound Attenuated
- Aluminum and Stainless Steel
- Enclosed Muffler

Distributed by:



GENERAC

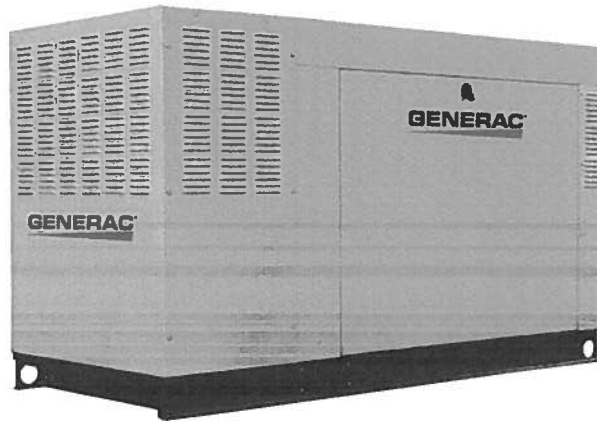
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QT045

Liquid Cooled Gas Engine Generator Sets

Standby Power Rating
45 kW 60 Hz



GENERAC 2.4L ENGINE

Naturally Aspirated
Gaseous Fueled
Meets 2009 EPA Emission Regulations

STANDARD EQUIPMENT

- All input connections in one single area
- High coolant temperature shutdown
- Low oil pressure shutdown
- Low coolant level automatic shutdown
- Overspeed automatic shutdown
- Crank timer
- Exercise timer
- Oil drain extension
- Cool flow radiator
- Closed coolant recovery system
- UV/Ozone resistant hoses
- Watertight state of the art electrical connectors
- Mainline circuit breaker
- Radiator drain extension
- Battery charge alternator
- 2 Amp static battery charger
- Battery cables
- Battery rack
- Fan and belt guards
- Isochronous governor
- Flex fuel line

FEATURES

- Innovative design and fully prototype tested
- UL2200 Listed
- Solid state frequency compensated voltage regulator
- Dynamic and static battery charger
- Sound attenuated acoustically designed enclosure
- Quiet test for low noise level exercise
- Acoustically designed engine cooling system
- High flow low noise factory engineered exhaust system
- State of the art digital control system with R100 digital control panel
- Watertight electrical connectors
- Rodent proof construction
- High efficiency, low distortion Generac designed alternator
- Vibration isolated from mounting base
- Matching Generac transfer switches engineered and tested to work as a system
- All components easily accessible for maintenance
- Electrostatically applied powder paint

GENERAC®

APPLICATION & ENGINEERING DATA

QT045

GENERATOR SPECIFICATIONS

TYPE.....	Synchronous
ROTOR INSULATION.....	Class H
STATOR INSULATION.....	Class H
TOTAL HARMONIC DISTORTION.....	<5%
TELEPHONE INTERFERENCE FACTOR (TIF).....	<50
ALTERNATOR OUTPUT LEADS 3 PHASE.....	4 wire
BEARINGS.....	Sealed Ball
COUPLING.....	Flexible Disc
LOAD CAPACITY (STANDBY RATING).....	45 kW
EXCITATION SYSTEM.....	Direct

NOTE: Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046, and DIN6271 standards.

VOLTAGE REGULATOR

TYPE.....	Electronic
SENSING.....	Single Phase
REGULATION.....	± 1%
FEATURES.....	V/F Adjustable Adjustable Voltage and Gain LED Indicators

GENERATOR FEATURES

- Revolving field heavy duty generator
- Directly connected to the engine
- Operating temperature rise 120 °C above a 40 °C ambient
- Insulation is Class H rated at 150 °C rise
- All models are fully prototyped tested

CONTROL PANEL FEATURES

- | | |
|--|---|
| <input type="checkbox"/> SEVEN LED INDICATOR LIGHTS | <input type="checkbox"/> ADDITIONAL FUNCTIONS |
| <ul style="list-style-type: none">• System ready• Low fuel pressure• Low battery• Low oil pressure• High coolant temp/low coolant temp• Overspeed• Overcrank | <ul style="list-style-type: none">• Utility sensing• Delay on utility failure for engine start• Engine warm-up before transfer• Delay to retransfer to utility• Engine cooldown timer• Exerciser not set |
-
- INTERNAL FUNCTIONS:
 - 3 position switch (auto, off and manual)
 - 2 wire start for any transfer switch
 - Communicates with the Generac RTS transfer switch
 - Built-in 7 day exerciser
 - Selectable engine speed at exercise
 - Governor controller is built into the master control board
 - Temperature range -40 °C to 70 °C

ENGINE SPECIFICATIONS

MAKE.....	Generac
MODEL.....	Inline 4
CYLINDERS.....	4
DISPLACEMENT.....	2.4 Liter, 146 in. ³
BORE.....	3.41
STROKE.....	3.94
COMPRESSION RATIO.....	8.5:1
INTAKE AIR SYSTEM.....	Naturally Aspirated
VALVE SEATS.....	Precision ground
LIFTER TYPE.....	Overhead Valve Push Rod, Hydraulic

GOVERNOR SPECIFICATIONS

TYPE.....	Electronic
FREQUENCY REGULATION.....	Isochronous
STEADY STATE REGULATION.....	± 0.25%

ENGINE LUBRICATION SYSTEM

OIL PUMP.....	Gear
OIL FILTER.....	Full flow spin-on cartridge
CRANKCASE CAPACITY.....	4 Quarts

ENGINE COOLING SYSTEM

TYPE.....	Pressurized Closed
WATER PUMP.....	Belt driven
FAN SPEED.....	2060
FAN DIAMETER.....	22 inches
FAN MODE.....	Pusher

FUEL SYSTEM

FUEL TYPE.....	Natural gas, propane vapor
CARBURETOR.....	Down Draft
SECONDARY FUEL REGULATOR.....	Standard
FUEL SHUT OFF SOLENOID.....	Standard
OPERATING FUEL PRESSURE.....	5" - 14" H ₂ O

ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR.....	12V 30 Amp
STATIC BATTERY CHARGER.....	2 Amp
RECOMMENDED BATTERY.....	Group 26, 525CCA
SYSTEM VOLTAGE.....	12 Volts

QT045

OPERATING DATA

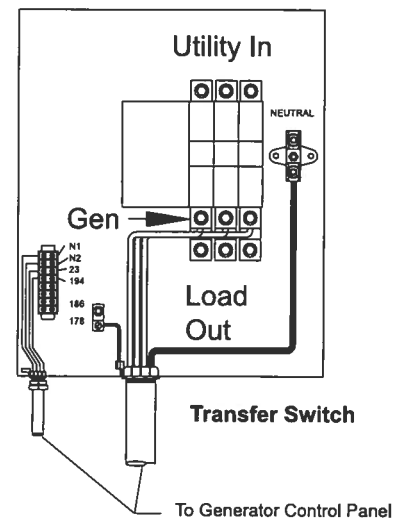
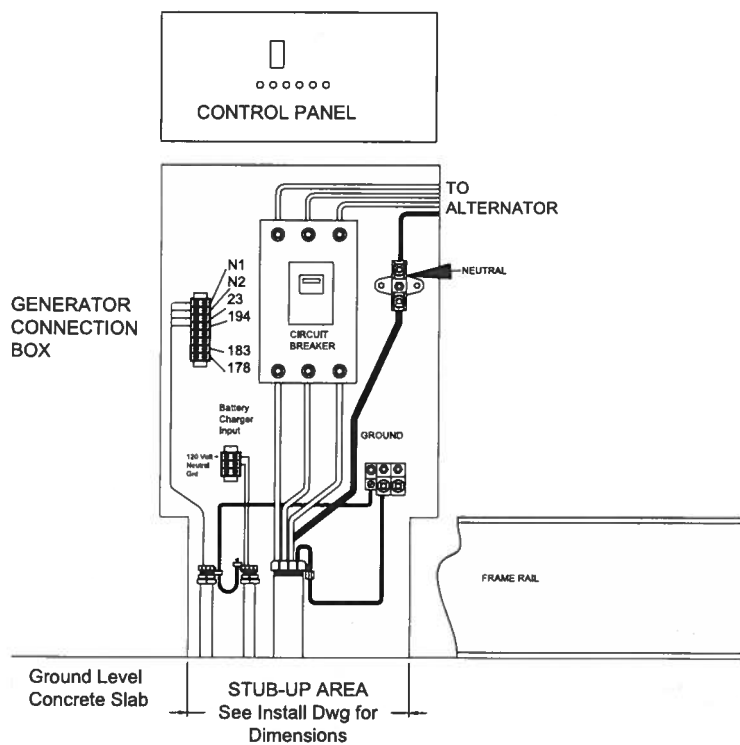
		QT045		
KW RATING		45		
ENGINE SIZE		2.4 Liter		
GENERATOR OUTPUT VOLTAGE/KW - 60Hz		KW	AMP	CB Size
120/240V, 1-phase, 1.0 pf		45	188	200
120/208V, 3-phase, 0.8 pf		45	156	175
120/240V, 3-phase, 0.8 pf		45	135	150
277/480V, 3-phase, 0.8 pf		45	68	80
GENERATOR LOCKED ROTOR KVA AVAILABLE @ VOLTAGE DIP OF 35%				
Single phase or 208/240 3-phase		100		
480V 3-phase		110		
ENGINE FUEL CONSUMPTION (Natural Gas) (Propane)		Natural Gas	Propane	
		(ft ³ /hr.)	(gal/hr.)	cu ft/hr
Exercise cycle		102	1.11	40.4
25% of rated load		194	2.12	77.1
50% of rated load		373	4.07	148
75% of rated load		520	5.67	206.3
100% of rated load		720	7.86	286
ENGINE COOLING				
Air flow (inlet air including alternator and combustion air) ft ³ /min.		2,725		
System coolant capacity US gal.		3.0		
Heat rejection to coolant BTU/hr.		173,000		
Max. operating air temp. on radiator °C (°F)		60 (150)		
Max. ambient temperature °C (°F)		50 (140)		
COMBUSTION AIR REQUIREMENTS				
Flow at rated power 60 Hz cfm		144		
SOUND EMISSIONS IN DBA				
Exercising at 7 meters		61		
Normal operation at 7 meters		73		
EXHAUST				
Exhaust flow at rated output 60 Hz cfm		429		
Exhaust temp. at muffler outlet °F		1150		
ENGINE PARAMETERS				
Rated synchronous RPM 60 Hz		3600		
HP at rated KW 60 Hz		71		
POWER ADJUSTMENT FOR AMBIENT CONDITIONS				
Temperature Deration				
3% for every 10 °C above - °C		25		
1.65% for every 10 °F above - °F		77		
Altitude Deration				
1% for every 100 m above - m		183		
3% for every 1000 ft. above - ft.		600		

RATING: All three phases units are rated at 0.8 power factor. All single phase units are rated at 1.0 power factor. STANDBY RATING: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice.

KW rating is based on LPG Fuel and may derate with natural gas.

INTERCONNECTIONS

QT045

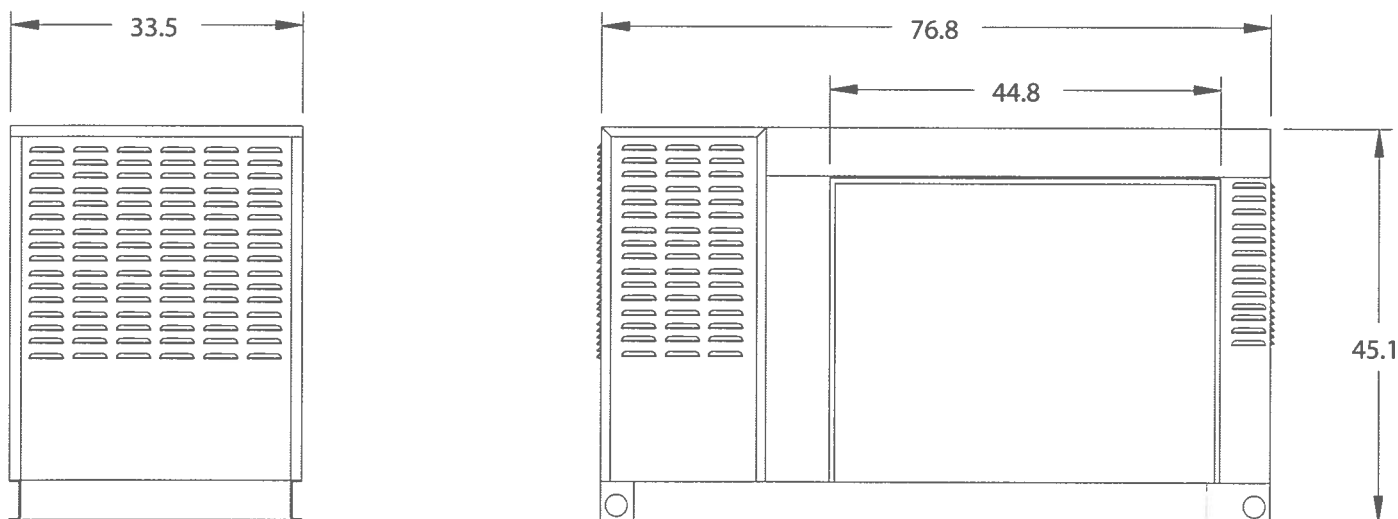


CIRCUIT BREAKER SIZE

KW	VOLTS	AMPS	LUG SIZE
45	240 1 ϕ	200	#6 to 300 mcm
45	208 3 ϕ	175	#6 to 300 mcm
45	240 3 ϕ	150	#6 to 300 mcm
45	480 3 ϕ	80	#6 to 300 mcm

Installation Drawing Ref. No. 0G0325

INSTALLATION LAYOUT



QT025

Liquid Cooled Gas Engine Generator Sets

Standby Power Rating
25 kW 60 Hz



GENERAC 1.6L ENGINE

**Naturally Aspirated
Gaseous Fueled
Meets 2009 EPA Emission Regulations**

STANDARD EQUIPMENT

- All input connections in one single area
- High coolant temperature shutdown
- Low oil pressure shutdown
- Low coolant level automatic shutdown
- Overspeed automatic shutdown
- Crank timer
- Exercise timer
- Oil drain extension
- Cool flow radiator
- Closed coolant recovery system
- UV/Ozone resistant hoses
- Watertight state of the art electrical connectors
- Mainline circuit breaker
- Radiator drain extension
- Battery charge alternator
- 2 Amp static battery charger
- Battery cables
- Battery rack
- Fan and belt guards
- Isochronous governor

FEATURES

- Innovative design and fully prototype tested
- UL2200 Listed
- Solid state frequency compensated voltage regulator
- Dynamic and static battery charger
- Sound attenuated acoustically designed enclosure
- Quiet test for low noise level exercise
- Acoustically designed engine cooling system
- High flow low noise factory engineered exhaust system
- State of the art digital control system with R100 digital control panel
- Watertight electrical connectors
- Rodent proof construction
- High efficiency, low distortion Generac designed alternator
- Vibration isolated from mounting base
- Matching Generac transfer switches engineered and tested to work as a system
- All components easily accessible for maintenance
- Electrostatically applied powder paint

GENERAC®

APPLICATION & ENGINEERING DATA

QT025

GENERATOR SPECIFICATIONS

TYPE.....	Synchronous
ROTOR INSULATION.....	Class F
STATOR INSULATION.....	Class F
TOTAL HARMONIC DISTORTION.....	<5%
TELEPHONE INTERFERENCE FACTOR (TIF).....	<50
ALTERNATOR OUTPUT LEADS 3 PHASE.....	4 wire
BEARINGS.....	Sealed Ball
COUPLING.....	Flexible Disc
LOAD CAPACITY (STANDBY RATING).....	25 kW
EXCITATION SYSTEM.....	Direct

NOTE: Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046, and DIN6271 standards.

VOLTAGE REGULATOR

TYPE.....	Electronic
SENSING.....	Single Phase
REGULATION.....	± 1%
FEATURES.....	V/F Adjustable Adjustable Voltage and Gain LED Indicators

GENERATOR FEATURES

- Revolving field heavy duty generator
- Directly connected to the engine
- Operating temperature rise 120 °C above a 40 °C ambient
- Insulation is Class F rated at 130 °C rise
- All models are fully prototyped tested

CONTROL PANEL FEATURES

- SEVEN LED INDICATOR LIGHTS
 - System ready
 - Low fuel pressure
 - Low battery
 - Low oil pressure
 - High coolant temp/low coolant temp
 - Overspeed
 - Overcrank
- ADDITIONAL FUNCTIONS
 - Utility sensing
 - Delay on utility failure for engine start
 - Engine warm-up before transfer
 - Delay to retransfer to utility
 - Engine cooldown timer
 - Exerciser not set
- INTERNAL FUNCTIONS:
 - 3 position switch (auto, off and manual)
 - 2 wire start for any transfer switch
 - Communicates with the Generac RTS transfer switch
 - Built-in 7 day exerciser
 - Selectable engine speed at exercise
 - Governor controller is built into the master control board
 - Temperature range -40 °C to 70 °C

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

ENGINE SPECIFICATIONS

MAKE.....	Generac
MODEL.....	In line
CYLINDERS.....	4
DISPLACEMENT.....	1.6 Liter
BORE.....	3.15
STROKE.....	3.13
COMPRESSION RATIO.....	9.75:1
INTAKE AIR SYSTEM.....	Naturally Aspirated
VALVE SEATS.....	Replaceable
LIFTER TYPE.....	Hydraulic

GOVERNOR SPECIFICATIONS

TYPE.....	Electronic
FREQUENCY REGULATION.....	Isochronous
STEADY STATE REGULATION.....	± 0.25

ENGINE LUBRICATION SYSTEM

OIL PUMP.....	Gear
OIL FILTER.....	Full flow spin-on cartridge
CRANKCASE CAPACITY.....	4 Quarts

ENGINE COOLING SYSTEM

TYPE.....	Closed
WATER PUMP.....	Belt driven
FAN SPEED.....	2550
FAN DIAMETER.....	15 inches
FAN MODE.....	Pusher

FUEL SYSTEM

FUEL TYPE.....	Natural gas, propane vapor
CARBURETOR.....	Down Draft
SECONDARY FUEL REGULATOR.....	Standard
FUEL SHUT OFF SOLENOID.....	Standard
OPERATING FUEL PRESSURE.....	5" - 14" H ₂ O

ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR.....	12V 30 Amp
STATIC BATTERY CHARGER.....	2 Amp
RECOMMENDED BATTERY.....	Group 26, 525CCA
SYSTEM VOLTAGE.....	12 Volts



QT025

OPERATING DATA

		QT025		
KW RATING		25		
ENGINE SIZE		1.6 Liter 4 cyl. inline		
GENERATOR OUTPUT VOLTAGE/KW - 60Hz		KW	AMP	CB Size
120/240V, 1-phase, 1.0 pf		25	104	125
120/208V, 3-phase, 0.8 pf		25	87	100
120/240V, 3-phase, 0.8 pf		25	75	90
GENERATOR LOCKED ROTOR KVA AVAILABLE @ VOLTAGE DIP OF 35% Single phase or 208/240 3-phase		34		
ENGINE FUEL CONSUMPTION (Natural Gas) (Propane)		Natural Gas	Propane	
		(ft ³ /hr.)	(gal/hr.)	cu ft/hr
Exercise cycle		60	0.65	24
25% of rated load		161	1.76	64
50% of rated load		253	2.77	101
75% of rated load		345	3.79	138
100% of rated load		437	4.81	175
ENGINE COOLING				
Air flow (inlet air including alternator and combustion air) ft ³ /min.		1,528		
System coolant capacity US gal.		2.0		
Heat rejection to coolant BTU/hr.		110,000		
Max. operating air temp. on radiator °C (°F)		60 (150)		
Max. ambient temperature °C (°F)		50 (140)		
COMBUSTION AIR REQUIREMENTS				
Flow at rated power 60 Hz cfm		90		
SOUND EMISSIONS IN DBA				
Exercising at 7 meters		62		
Normal operation at 7 meters		74		
EXHAUST				
Exhaust flow at rated output 60 Hz cfm		249		
Exhaust temp. at muffler outlet °F		1015		
ENGINE PARAMETERS				
Rated synchronous RPM 60 Hz		3600		
HP at rated KW 60 Hz		45		
POWER ADJUSTMENT FOR AMBIENT CONDITIONS				
Temperature Deration				
3% for every 10 °C above - °C		25		
1.65% for every 10 °F above - °F		77		
Altitude Deration				
1% for every 100 m above - m		183		
3% for every 1000 ft. above - ft.		600		

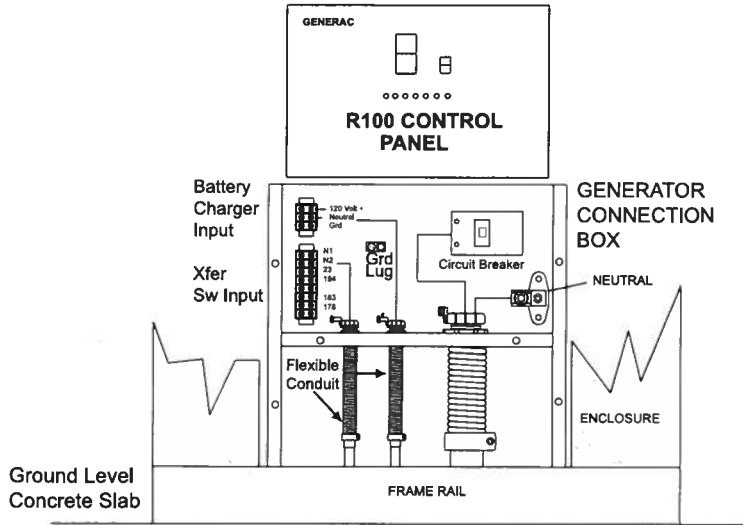
RATING: All three phases units are rated at 0.8 power factor. All single phase units are rated at 1.0 power factor. STANDBY RATING: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice.

KW rating is based on LPG Fuel and may derate with natural gas.

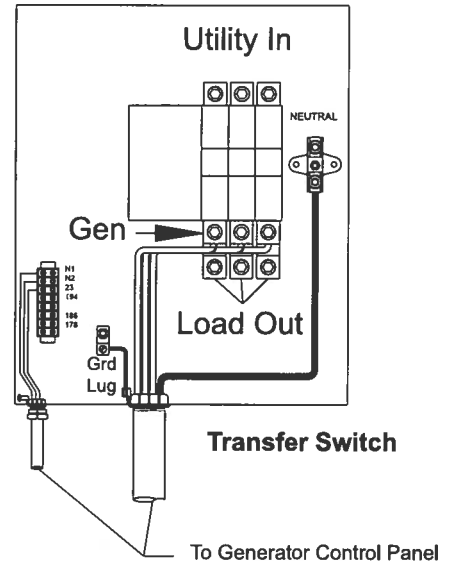
INTERCONNECTIONS

QT025

C1 Enclosure 18, 20, 25, 30 kW 1.6 Liter QT



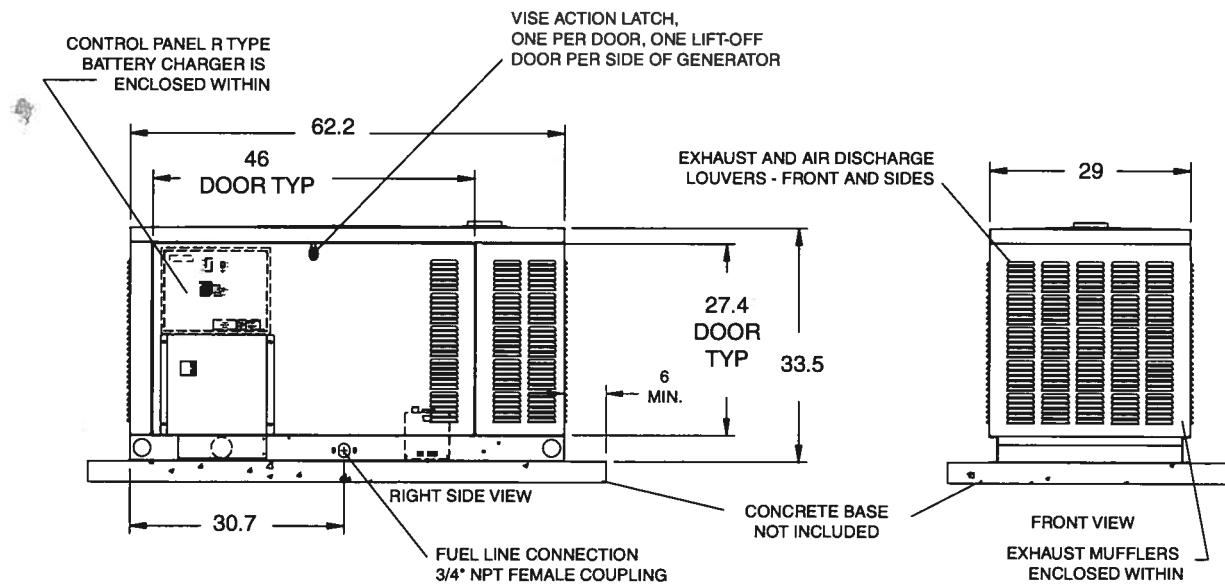
Installation Drawing Ref. No. 0G5116



CIRCUIT BREAKER SIZE

KW	VOLTS	AMPS	LUG SIZE
25	240 1Ø	125	#2 to 1/0
25	208 3Ø	100	#4 to 1/0
25	240 3Ø	90	#10 to 1/0

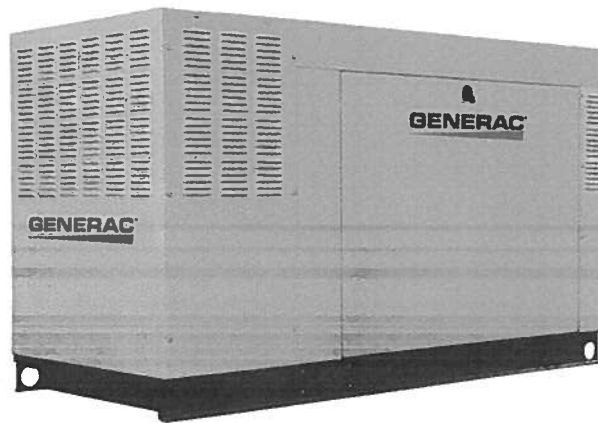
INSTALLATION LAYOUT



QT060

Liquid Cooled Gas Engine Generator Sets

Standby Power Rating
60 kW 60 Hz



GENERAC 2.4L ENGINE

**Turbocharged/Aftercooled
Gaseous Fueled
Meets 2009 EPA Emission Regulations**

STANDARD EQUIPMENT

- All input connections in one single area
- High coolant temperature shutdown
- Low oil pressure shutdown
- Low coolant level automatic shutdown
- Overspeed automatic shutdown
- Crank timer
- Exercise timer
- Oil drain extension
- Cool flow radiator
- Closed coolant recovery system
- UV/Ozone resistant hoses
- Watertight state of the art electrical connectors
- Mainline circuit breaker
- Radiator drain extension
- Battery charge alternator
- 2 Amp static battery charger
- Battery cables
- Battery rack
- Fan and belt guards
- Isochronous governor
- Flex fuel line
- Hour meter

FEATURES

- Innovative design and fully prototype tested
- UL2200 Listed
- Solid state frequency compensated voltage regulator
- Dynamic and static battery charger
- Sound attenuated acoustically designed enclosure
- Quiet test for low noise level exercise
- Acoustically designed engine cooling system
- High flow low noise factory engineered exhaust system
- State of the art digital control system with R100 digital control panel
- Watertight electrical connectors
- Rodent proof construction
- High efficiency, low distortion Generac designed alternator
- Vibration isolated from mounting base
- Matching Generac transfer switches engineered and tested to work as a system
- All components easily accessible for maintenance
- Electrostatically applied powder paint

GENERAC®

APPLICATION & ENGINEERING DATA

QT060

GENERATOR SPECIFICATIONS

TYPE	Synchronous
ROTOR INSULATION.....	Class H
STATOR INSULATION.....	Class H
TOTAL HARMONIC DISTORTION.....	<5%
TELEPHONE INTERFERENCE FACTOR (TIF)	<50
ALTERNATOR OUTPUT LEADS 3 PHASE	4 wire
BEARINGS.....	Sealed Ball
COUPLING.....	Flexible Disc
LOAD CAPACITY (STANDBY RATING).....	60 kW
EXCITATION SYSTEM.....	Direct

NOTE: Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046, and DIN6271 standards.

VOLTAGE REGULATOR

TYPE	Electronic
SENSING	Single Phase
REGULATION.....	± 1%
FEATURES.....	V/F Adjustable Adjustable Voltage and Gain LED Indicators

GENERATOR FEATURES

- Revolving field heavy duty generator
- Directly connected to the engine
- Operating temperature rise 120 °C above a 40 °C ambient
- Insulation is Class H rated at 150 °C rise
- All models are fully prototyped tested

CONTROL PANEL FEATURES

- SEVEN LED INDICATOR LIGHTS
 - System ready
 - Low fuel pressure
 - Low battery
 - Low oil pressure
 - High coolant temp/low coolant temp
 - Overspeed
 - Overcrank
- ADDITIONAL FUNCTIONS
 - Utility sensing
 - Delay on utility failure for engine start
 - Engine warm-up before transfer
 - Delay to retransfer to utility
 - Engine cooldown timer
 - Exerciser not set
 - Hour meter
- INTERNAL FUNCTIONS:
 - 3 position switch (auto, off and manual)
 - 2 wire start for any transfer switch
 - Communicates with the Generac RTS transfer switch
 - Built-in 7 day exerciser
 - Selectable engine speed at exercise
 - Governor controller is built into the master control board
 - Temperature range -40 °C to 70 °C

ENGINE SPECIFICATIONS

MAKE	Generac
MODEL.....	2.4 Liter
CYLINDERS	Inline 4
DISPLACEMENT.....	2.4 Liter
BORE	3.41
STROKE.....	3.94
COMPRESSION RATIO.....	8.5:1
INTAKE AIR SYSTEM.....	Turbocharged/Aftercooled
VALVE SEATS	Hardened
LIFTER TYPE.....	Hydraulic

GOVERNOR SPECIFICATIONS

TYPE	Electronic
FREQUENCY REGULATION.....	± Isochronous
STEADY STATE REGULATION.....	± 0.25%
ADJUSTMENTS FOR:	
Speed	Yes
Droop.....	Yes

ENGINE LUBRICATION SYSTEM

OIL PUMP	Gear
OIL FILTER.....	Full flow spin-on cartridge
CRANKCASE CAPACITY.....	4 Quarts

ENGINE COOLING SYSTEM

TYPE	Closed
WATER PUMP.....	Belt driven
FAN SPEED	2100
FAN DIAMETER.....	22 inches
FAN MODE.....	Puller

FUEL SYSTEM

FUEL TYPE.....	Natural gas, propane vapor
CARBURETOR.....	Down Draft
SECONDARY FUEL REGULATOR.....	Standard
FUEL SHUT OFF SOLENOID	Standard
OPERATING FUEL PRESSURE.....	5" - 14" H ₂ O

ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR.....	12V 30 Amp
STATIC BATTERY CHARGER	2 Amp
RECOMMENDED BATTERY	Group 24F, 525CCA
SYSTEM VOLTAGE.....	12 Volts

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

QT060

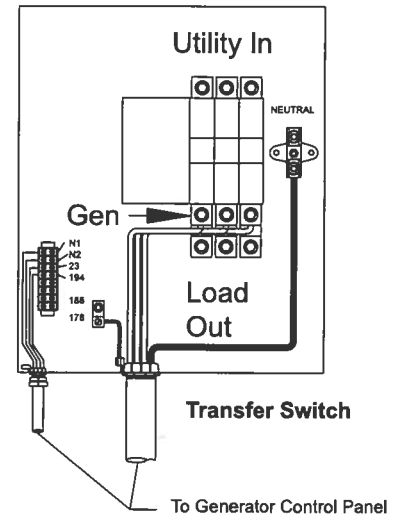
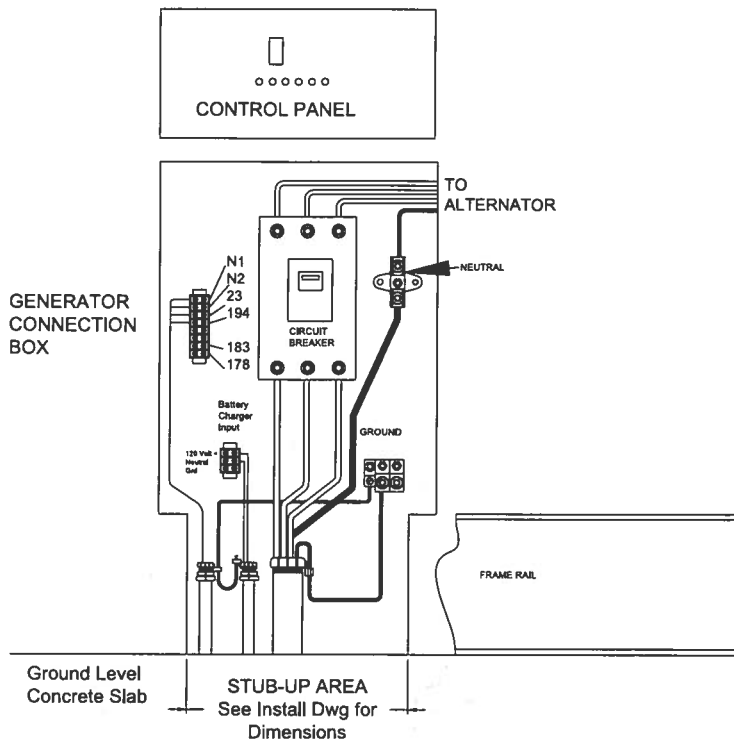
OPERATING DATA

		QT060		
KW RATING		60		
ENGINE SIZE		2.4 Liter		
GENERATOR OUTPUT VOLTAGE/KW - 60Hz		KW	AMP	CB Size
120/240V, 1-phase, 1.0 pf		60	250	300
120/208V, 3-phase, 0.8 pf		60	208	250
120/240V, 3-phase, 0.8 pf		60	180	200
277/480V, 3-phase, 0.8 pf		60	90	100
GENERATOR LOCKED ROTOR KVA AVAILABLE @ VOLTAGE DIP OF 35%				
Single phase or 208/240 3-phase		120		
480V 3-phase		141		
ENGINE FUEL CONSUMPTION (Natural Gas) (Propane)		Natural Gas	Propane	
		(ft ³ /hr.)	(gal/hr.)	cu ft/hr
Exercise cycle		123	1.34	49.3
25% of rated load		267	2.7	101
50% of rated load		483	5.0	183
75% of rated load		672	7.0	255
100% of rated load		862	9.0	327
ENGINE COOLING				
Air flow (inlet air including alternator and combustion air) ft ³ /min.		3,280		
System coolant capacity US gal.		2.5		
Heat rejection to coolant BTU/hr.		270,000		
Max. operating air temp. on radiator °C (°F)		60 (150)		
Max. ambient temperature °C (°F)		50 (140)		
COMBUSTION AIR REQUIREMENTS				
Flow at rated power 60 Hz cfm		180		
SOUND EMISSIONS IN DBA				
Exercising at 7 meters		65		
Normal operation at 7 meters		72		
EXHAUST				
Exhaust flow at rated output 60 Hz cfm		494		
Exhaust temp. at muffler outlet °F		1,050		
ENGINE PARAMETERS				
Rated synchronous RPM 60 Hz		3600		
HP at rated KW 60 Hz		94		
POWER ADJUSTMENT FOR AMBIENT CONDITIONS				
Temperature Deration				
3% for every 10 °C above - °C		25		
1.65% for every 10 °F above - °F		77		
Altitude Deration				
1% for every 100 m above - m		915		
3% for every 1000 ft. above - ft.		3000		

RATING: All three phases units are rated at 0.8 power factor. All single phase units are rated at 1.0 power factor. STANDBY RATING: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice.

INTERCONNECTIONS

QT060

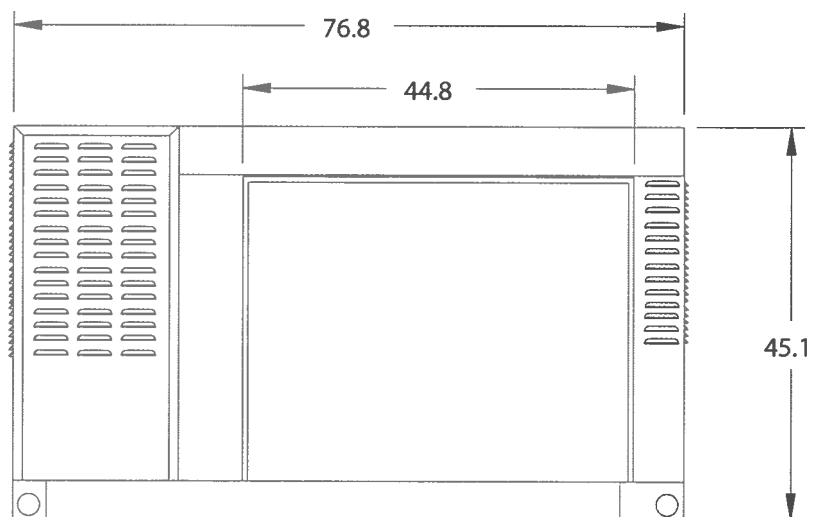
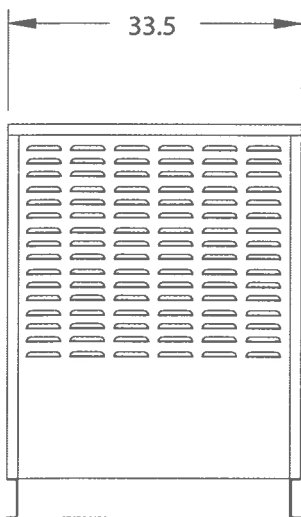


CIRCUIT BREAKER SIZE

kW	VOLTS	/	AMPS	LUG SIZE
60	240 1Ø		300	(2) 250 mcm to 2 - 1/0 or (1) 600 mcm to #4
60	208 3Ø		250	(2) 250 mcm to 2 - 1/0 or (1) 600 mcm to #4
60	240 3Ø		200	#6 to 300 mcm
60	480 3Ø		100	#6 to 300 mcm

Installation Drawing Ref. No. 0F9577

INSTALLATION LAYOUT



WEIGHT: 1650 lbs.





STANDBY GENERATORS

20 kW

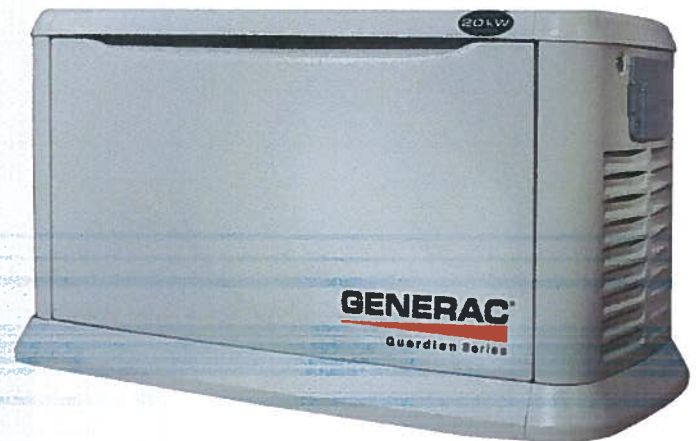
Air-Cooled Gas Engine Generator Sets

Continuous Standby Power Rating

Model 005525-1 (Aluminum - Gray) - 20 kW 60Hz

INCLUDES:

- True Power® Electrical Technology
- Two Line LCD Digital Controller
- Electronic Governor
- External Main Circuit Breaker, System Status & Maintenance Interval LED's and GFCI Duplex Outlet
- Flexible Fuel Line Connector
- Composite Mounting Pad
- Natural Gas or LP Gas Operation
- UL 2200 Listed



QUIET-TEST

FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **TRUE POWER® ELECTRICAL TECHNOLOGY:** Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC.
- **TEST CRITERIA:**
 - ✓ PROTOTYPE TESTED
 - ✓ NEMA MG1-22 EVALUATION
 - ✓ SYSTEM TORSIONAL TESTED
 - ✓ MOTOR STARTING ABILITY
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- **GENERAC TRANSFER SWITCHES.** Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems and controls for total system compatibility.

GENERAC®

FEATURES

Standby Generator - 20 kW

ENGINE	<ul style="list-style-type: none"> •Generac (OHVI) Design 	Maximizes engine "breathing" for increased fuel efficiency. Plateau honed cylinder walls and plasma moly rings help engine run cooler, reducing oil consumption. Because heat is the primary cause of engine wear, the OHVI has a significantly longer life than competitive engines.
	<ul style="list-style-type: none"> •"Spiny-lok" cast iron cylinder walls 	Rigid construction and added durability provide long engine life.
	<ul style="list-style-type: none"> •Electronic ignition/spark advance 	These features combine to assure smooth, quick starting every time.
	<ul style="list-style-type: none"> •Full pressure lubrication system 	Superior lubrication to all vital bearings means better performance, less maintenance and significantly longer engine life. Now featuring a 2 year/200 hour oil change interval.
	<ul style="list-style-type: none"> •Low oil pressure shutdown system 	Superior shutdown protection prevents catastrophic engine damage due to low oil.
	<ul style="list-style-type: none"> •High temperature shutdown 	Prevents damage due to overheating.
GENERATOR	<ul style="list-style-type: none"> •Revolving field 	Allows for smaller, light weight unit that operates 25% more efficiently than a revolving armature generator.
	<ul style="list-style-type: none"> •Skewed stator 	Produces a smooth output waveform for compatibility with electronic equipment.
	<ul style="list-style-type: none"> •Displaced phase excitation 	Maximizes motor starting capability.
	<ul style="list-style-type: none"> •Automatic voltage regulation 	Regulates the output voltage to $\pm 2\%$ prevents damaging voltage spikes.
	<ul style="list-style-type: none"> •UL 2200 Listed 	For your safety
TRANSFER SWITCH	<ul style="list-style-type: none"> Sold separately 	
CONTROLS	<ul style="list-style-type: none"> •Manual/Auto/Off switch 	Selects the operating mode.
	<ul style="list-style-type: none"> •Utility voltage sensing 	Constantly monitors utility voltage, setpoints 65% dropout, 75% pick-up, of standard voltage.
	<ul style="list-style-type: none"> •Utility interrupt delay 	Prevents nuisance start-ups of the engine, adjustable 10-30 seconds.
	<ul style="list-style-type: none"> •Engine warm-up 	Ensures engine is ready to assume the load, setpoint approximately 10 seconds.
	<ul style="list-style-type: none"> •Engine cool-down 	Allows engine to cool prior to shutdown, setpoint approximately 1 minute.
	<ul style="list-style-type: none"> •Seven day exerciser 	Operates engine to prevent oil seal drying and damage between power outages.
	<ul style="list-style-type: none"> •Timed Trickle Battery charger 	Maintains battery charge level to insure starting.
	<ul style="list-style-type: none"> •Main Line Circuit Breaker 	Protects generator from overload.
	<ul style="list-style-type: none"> •Electronic governor 	Maintains constant 60 Hz frequency.
UNIT	<ul style="list-style-type: none"> •Aluminum weather protective enclosure 	Provides the ultimate protection against mother nature. Hinged key locking roof panel for security. Lift-out front for easy access to all routine maintenance items. Electrostatically applied textured epoxy paint for added durability.
	<ul style="list-style-type: none"> •Enclosed critical grade muffler 	Quiet, critical grade muffler is mounted inside the unit to prevent injuries.
	<ul style="list-style-type: none"> •Small, compact, attractive 	Makes for an easy, eye appealing installation.
INSTALLATION SYSTEM	<ul style="list-style-type: none"> •1' Flexible Fuel Line Connector 	Easy Installation
	<ul style="list-style-type: none"> •Composite Mounting Pad 	

SPECIFICATIONS

GENERAC

GENERATOR		Model 05525 (20 kW)
Rated Maximum Continuous Power Capacity (LP)		20,000 Watts*
Rated Maximum Continuous Power Capacity (NG)		18,000 Watts*
Rated Voltage		120/240
Rated Maximum Continuous Load Current 240 Volts		83.3 LP/75 NG
Total Harmonic Distortion		Less than 5%
Main Line Circuit Breaker		100 Amp
Phase		1
Number of Rotor Poles		2
Rated AC Frequency		60Hz
Power Factor		1
Battery Requirement (not included)		Group 26R 12 Volts and 525 Cold-cranking Amperes Minimum
Unit Weight		451 Pounds
Dimensions (L" x W" x H")		48 x 25 x 29
Sound output in dB(A) at 23 ft. with generator operating at normal load		66
Sound output in dB(A) at 23 ft. with generator in Quiet-Test™ low speed exercise mode		60
ENGINE		Model 05525 (20 kW)
Type of Engine		GENERAC OHVI V-TWIN
Number of Cylinders		2
Rated Horsepower		36 @ 3,600 rpm
Displacement		999cc
Cylinder Block		Aluminium w/Cast Iron Sleeve
Valve Arrangement		Overhead Valve
Ignition System		Solid-state w/Magneto
Governor System		Electronic
Compression Ratio		9.5:1
Starter		12 Vdc
Oil Capacity Including Filter		Approx. 1.9 Qts.
Operating RPM		3,600
Fuel Consumption		
Natural Gas	cu.ft./hr.	
	1/2 Load	
	Full Load	206
Liquid Propane	ft ³ /hr (gal/hr)	
	1/2 Load	69 (1.89)
	Full Load	106 (2.90)
Required fuel pressure to generator fuel inlet at all load ranges - 5 to 7 inches of water column for natural gas, 11 to 14 inches of water column for LP gas		
CONTROLS		
2-Line Plain Text LCD Display		Simple user interface for ease of operation
Mode Switch		
-Auto		Automatic Start on Utility failure. 7 day exerciser
-Off		Stops unit. Power is removed. Control and charger still operate.
-Manual/Test (start)		Start with starter control, unit stays on. If utility fails, transfer to load takes place.
Engine Start Sequence		Cyclic cranking: 16 sec. on, 7 rest (90 sec. maximum duration)
Engine Warm-up		10 seconds
Engine Cool-Down		1 minute
Starter Lock-out		Starter cannot re-engage until 5 sec. after engine has stopped.
2.5 Amp Timed Trickle Battery Charger		Standard
Automatic Voltage Regulator w/Overvoltage Protection		Standard
Automatic Low Oil Pressure Shutdown		Standard
Overspeed Shutdown		Standard, 72Hz
High Temperature Shutdown		Standard
Overcrank Protection		Standard
Safety Fuse		Standard

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). * Maximum wattage and current are subject to and limited by such factors as fuel Btu content, ambient temperature, altitude, engine power and condition, etc. Maximum power decreases about 3.5 percent for each 1,000 feet above sea level; and also will decrease about 1 percent for each 12° C (10° F) above 15.5° C (60° F).

Standby Generator - 20 kW

