

INVITATION FOR SEALED BID

Bid 00-607

Description: PORTABLE GENERATOR

Department: EQUIPMENT MANAGEMENT

NIGP Commodity Code(s): 285-37-00-000-0

Total pages including this page is 18

Important Instruction – Read Carefully:

**If you have obtained these bid specifications from either of:
City of Tulsa's Fax-on-Demand (918-596-1171) or
City of Tulsa's Website : <http://www.cityoftulsapurchasing.org/>**

you must notify the buyer Laura Blades of your intent to bid by e-mail lblades@ci.tulsa.ok.us in order to receive addenda. The buyer will always acknowledge your e-mail for your records. All addenda will be posted on fax-on-demand and the website.

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Pay special attention to those pages with a reference to the following notes:

Note #1: Signature of authorized agent required

Note #2: Signature of an authorized agent and notarized required

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Your bid response should follow the same format listed above plus any additional format requested in the body of the bid invitation.

**INVITATION FOR SEALED BIDS
TO
City of Tulsa**

200 CIVIC CENTER, ROOM 109, TULSA, OKLAHOMA 74103

Bid number and date of bid opening must appear on the lower
left outside corner of bid envelopes and all related containers.

DATE OF OPENING: **May 10, 2001**

BID NUMBER: **00-607**

**BID MUST BE IN THE CITY CLERK'S OFFICE AT THE ABOVE ADDRESS BY 5:00 P.M. THE DAY
PRECEDING THE "DATE OF OPENING" SHOWN ABOVE.**

BIDS WILL BE OPENED AT 8:30 A.M. IN THE CITY COUNCIL ROOM ON THE DAY SPECIFIED UNDER "DATE OF OPENING."

PUBLISHED IN THE TULSA DAILY COMMERCE AND LEGAL NEWS: **April 30, May 1, 2, 3, 4, 2001**

Bid must be accompanied by bidder's bond, cashier's check or certified check in the amount of: **NONE**

PLEASE READ TERMS AND CONDITIONS ON THE NEXT PAGE BEFORE COMPLETING BID DOCUMENTS

***** **THE FOLLOWING SECTION MUST BE COMPLETED BY BIDDER** *****

Delivery will be made in not more than _____ days after receipt of order.

Payment terms _____ % _____ days.

City of Tulsa may increase quantity of order at the unit price bid for _____ days. (Bidder to Specify Days) I have examined the terms and specifications and the instructions to bidders herein and agree, provided I am awarded a contract, to provide the above described items for the sum shown in accordance with the terms and specifications stated herein. All deviations are in writing and attached hereto.

Enclosed is a [] BID BOND ; [] CASHIER'S CHECK; [] Certified Check in the amount of \$ _____, which I agree the City of Tulsa may retain as liquidated damages in the event of my failure to comply with the terms of this bid.

MUST BE SIGNED BY AUTHORIZED AGENT TO BE VALID

FIRM NAME _____

by

STREET _____

TITLE

CITY STATE _____ ZIP CODE _____ PHONE NUMBER _____ DATE _____

GENERAL TERMS AND CONDITIONS OF BIDS

THESE ITEMS APPLY TO AND BECOME A PART OF THE BID.

NO EXCEPTIONS TO THESE TERMS & CONDITIONS WILL BE CONSIDERED.

1. **BIDS MUST BE SUBMITTED ON THIS FORM ONLY INCLUDING A SIGNATURE OF AN AUTHORIZED AGENT.** Each bid shall be placed in a separate envelope. Be sure envelope is completely and properly identified and sealed, showing the bid number and date in the lower left hand corner. Bids must be time stamped in the office of the City Clerk by 5:00 P.M. on the day before date of opening.
2. No bidder may withdraw his proposal for a period of thirty (30) days after the date and hour set for the opening of bids.
3. All prices shall be quoted F.O.B. Tulsa, Oklahoma, and delivery to City of Tulsa location shall be without additional charge.
4. The bidder shall attach the manufacturer's name of the equipment or material to be furnished, type, model numbers, manufacturer's descriptive bulletins and specifications. All guarantees and warranties should be clearly stated. This data shall be in sufficient detail to describe accurately the equipment or material to be furnished. Manufacturer's specifications, in respect to the successful bidder, shall be considered as part of his contract with the City of Tulsa.
5. The bidder shall show in the proposal both the unit prices and total amount, where required, of each item listed. In the event of error or discrepancy in the mathematics, the unit prices shall prevail.
6. Any exceptions or deviations from written specifications shall be shown in writing and attached to the bid form.
7. Each bidder agrees to comply with the terms of Title 5, Chapter 1, of Tulsa Revised Ordinances relating to equal employment opportunity.
8. **THE ENCLOSED FORMS REGARDING NON-COLLUSION AND FINANCIAL INTEREST MUST BE SIGNED, NOTARIZED, AND RETURNED WITH THE BID.**
9. The City of Tulsa reserves the right to reject any and all bids, to waive any technicalities in the bidding, and to award each item to different bidders or all items to a single bidder.
10. All bids must be accompanied by bidders bond, cash, certified or cashier's check in the amount shown on the face of the bid form. This amount shall be retained by the City of Tulsa as liquidated damages in the event the successful bidder (or bidders) fails to execute a contract, if required. The bidder agrees that said amount is presumed to be the damages sustained by the City due to the impracticability and extreme difficulty in fixing the actual damages. The office of the City Clerk will return the bid deposits to the unsuccessful bidders, after a contract has been awarded or all bids have been rejected.
11. In the event cash discounts are offered by the bidder, the discount date shall begin with the date of invoice, the date of receipt of all material covered by the purchase order, or the date of receipt by the City of Tulsa of the original copy of the purchase order with properly executed Affidavit of Claimant, whichever is the later date.
12. Direct purchase of certain items of equipment or material by the City of Tulsa are exempt from Federal Excise Tax and Oklahoma Sales Tax. In such cases the bidder shall quote prices which do not include Federal Excise Tax and Oklahoma Sales Tax. The City of Tulsa will furnish executed exemption certificates upon presentation by the bidder at the time of purchase.
13. Bid must show number of days required for delivery under normal conditions. Failure to state delivery time obligates bidder to complete delivery in fourteen (14) calendar days. Unrealistically short or long delivery promises may cause bid to be disregarded. Contractor must keep Purchasing Department advised at all times of status of order. Default in promised delivery or failure to meet specifications authorizes the Purchasing Agent to purchase supplies elsewhere and charge full increase of cost and handling to defaulting contractor. Consistent failure to meet delivery promises without valid reason may cause removal from bid list.

authorized agent, and notarized.

BIDDER AFFIDAVIT - TITLE 74 O.S. (1974 SUPP.) 85.22-85.25

STATE OF _____ COUNTY OF _____

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

Authorized Agent

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 municipal 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 municipal 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 municipal official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

SIGNATURE OF AUTHORIZED AGENT

Subscribed and sworn to before me this _____ day of _____, 19_____.

Signature of Notary Public

MY COMMISSION EXPIRES

The Bidder Affidavit must be completed, signed by an authorized agent, and notarized.

CONTRACTOR/BIDDER INFORMATION SHEET

To be completed by all Bidders
For Contracts with the City of Tulsa
(Please print or type)

Project No. or Description _____

Full Name of Bidder _____

Legal Identity
(Corporation, Partnership,
Individual, etc.) _____

Address _____

Telephone No. _____

FAX No. _____

Taxpayer Identification Number _____

Contact Person _____

Phone No. _____

Fax No. _____

E-mail address _____

Webpage Address _____

Price Sheet Summary

Vendor Name: _____ Signature: _____

Date: _____

You will be able to obtain a copy of the Bid Summary on the City of Tulsa's Purchase-Net Fax-on-Demand and Website shortly after bid opening.

BID 00-607

<u>ITEM</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
1.	1	<p><u>Project Name: CITY OF TULSA FUEL DEPOTE</u></p> <p>Kohler Model 30REOZJ-30KW 120/208 three phase or acceptable equal Governor mechanical Dry type air filters Vibration isolators between engine-generator and skid Lube oil filters and drain connections to skid Unit mounted radiator with shell and fan guard 12 volt starter and alternator Battery 900 amp hour with cables and mounting tray Battery charger 5 amp wioth charge rate meter Muffler critical type with flex connector Engine block heater thermostatically controlled Generator 1800 RPM, brushless excitation, 60 hz, 3 phase, 120/2k40 volt, constant voltage regulator (+) or (-) 1% with SCR suppression, thermal overload protection, Class F insulation, direct flex disc drive, 10 lead reconnectable.</p> <p>Dec 3+, 7 Light Controller (Meets or exceeds NFPA 110 Level 2 Requirements) Panel Lamps (2) Analog Gauges (2 in) Oil Pressure Gauge Water Temperature Gauge DC Batter Voltmeter</p> <p>Analog Meters (3.5 in)</p>	\$ _____	\$ _____

- AC Voltmeter
- AC Ammeter
- Frequency Meter
- Pre-Alarm Indicators
 - Auxiliary, Multiple Function (red)
 - Low Engine Temperature (red)
- Shutdown Indicators
 - Low Coolant Level (red)
 - Overcrank (red)
 - Overspeed (red)
 - High Engine Temperature (red)
 - Low Oil Pressure (red)
- Running Time Meter
- Alarm Horn
- Over Voltage Shutdown Protection
- Emergency Stop Switch
- Lamp Test Switch
- Meter Range Selector Switch
- Run/Off-Reset/Auto (engine start)
- Dec + 16 Light Controller (meets or exceeds NFPA 110, Level 1 Requirements)
- Panel Lamps (2)
- Analog Gauges (2 in)
 - Oil Pressure Gauge
 - Water Temperature Gauge
 - DC Battery Voltmeter
- Analog Meters (3.5 in)
 - AC Voltmeter
 - AC Ammeter
 - Frequency Meter
- Prealarm Indicators
 - Auxiliary (Multiple Functional) (red)
 - Battery Charger (red)
 - Low Fuel Level or Pressure (red)
 - Low Oil Pressure (yellow)
 - Low Engine Temperature (red)
 - High Engine Temperature (red)
 - High Battery Voltage (yellow)
 - Low Battery Voltage (red)
- Shutdown Indicators
 - Low Coolant Level (red)
 - Overcrank (red)
 - Overspeed (red)
 - High Engine Temperature (red)
 - Low Oil Pressure (red)
 - Emergency Stop (red)
- Status Indicators
 - Generator Switch not-in Auto (red)
 - System Ready (Green)
- Running Time Meter
- Alarm Horn
- Over Voltage Shutdown Protection
- Emergency Stop Switch
- Lamp Test Switch
- Meter Range Selector Switch

Run/Off-Reset/Auto (engine start)

All weather zinc coated outdoor weather protective generator enclosure with stainless hinges and key locks, removeable door panels for easy access, fixedlouvers for maximum air circulation.

40 Gallon double wall sub-base mounted fuel storage tank with locakabe filler cap, sight level gauge, check valve, low fuel switch, UL listed, double wall containment with leak detector

100 A,p UL listed main line circuit breaker mounted in connection box. Engine Generator mounted on custom built trailer with standard safety package.

ATS IS INCLUDED IN INSTALLATION PRICE

Kohler Automatic Transfer Switch

Model, VAC, 60HZ, pole, 600 Volt

U.L. 1008 listed

Electrically operated/mechanically held contacts

Engine Exerciser (Load/No Load Switch

Time Delay Normal to Emergency (0.6 – 60 seconds)

Time Delay Engine Start (fixed at 3 seconds)

Time Delay Emergency to Normal (1-30 minutes)

Emergency Source Over Frequency Monitor, 1-phase

Test Switch, Momentary

NEMA 1 Enclosure

Pilot Lights

Emergency Positon (red)

Normal Positoin (green)

Normal Available (white)

Emergency Avaialble (white)

Auxiliary dry contacts one set N.O.and N.C.

Standard 1 year or 2000 hour warranty

Model_____ Manufacturer_____

INSTALLATION; Electrical work, labor and materials to install ATS and Geneator Plug

Jackson Street site (use existing receptacle) \$_____

Garnett Site \$_____

This price includes an onsite start-up inspection by one of our factory authorized service technicians. Delivery of this equipment can be made within 8-12 weeks after receipt of firm purchase order.

BID #00-607

PORTABLE GENERATOR

EQUIPMENT MANAGEMENT DEPARTMENT

INTENT:

It is the intent of this bid to secure, on a competitive basis, a source of supply for furnishing **Portable Generator** to the City of Tulsa, Equipment Management Department.

GENERAL SPECIFICATIONS:

The intent of these specifications is to set a minimum standard for bidding and is not to limit bidding otherwise.

Inasmuch as some designs of equipment vary among different manufacturers, the City may accept bids on equipment with minor deviations to the written specifications. General, a minor deviation is defined as a deviation which does not: (A) Materially affect the ability of the product to achieve or accomplish a necessary function or task in the manner required by the specifications; (B) Compromise the safety of the user thereof; and, (C) Produce higher latent or patent costs to the City in any of a multiplicity of ways. The City of Tulsa specifically reserves the right to make the final judgment concerning what is or is not a minor deviation and to award the bidder(s) whose bid(s) best suit the City's need for the product being purchased.

Any exception or deviations from the specifications set forth in this bid must be clearly described in the bidders proposal.

PRICING:

Bid prices, unless otherwise specified, must be net, including transportation and handling charges fully prepaid by the supplier to destination and subject only to cash discount for prompt payment of invoice.

PURCHASE ORDERS, INVOICING AND PAYMENT:

The City will issue a Purchase Order to the successful bidder for the subject supplies. the successful bidder must furnish the user department one (1) copy of the itemized delivery ticket.

The original invoice is to be sent directly to the City of Tulsa, Accounts Payable Division, 200 Civic Center, City Hall Building Room 905, Tulsa, Oklahoma 74103.

INVOICES SHALL CONTAIN THE FOLLOWING INFORMATION:

1. Using agency and delivery address.
2. Purchase Order number.
3. Product description.
4. Unit price of product.
5. Bid number 00-607.

BIDDER'S AFFIDAVIT:

Each bidder shall accompany their bid with a fully executed and notarized copy of the attached **Non-Collusion Affidavit** and the **Interest Affidavit**. Failure to do so may be cause for rejection of the bid.

ADDENDA AND INTERPRETATIONS:

If it becomes necessary to revise any part of this bid, a written addendum will be provided to all the bidders. The City of Tulsa is not bound by any oral representations, clarifications or changes made in the written specifications by City of Tulsa employees unless such clarification or change is provided to bidders in written addendum form from the Purchasing Division.

AWARD OF BID:

The bid shall be awarded to the firm whose proposal is responsive to the bid and is most advantageous to the City, considering the factors identified in the bid and Section 406E of Title 6, The Purchasing Ordinance set forth below:

406E. AWARD OF CONTRACT

1. Authority in the Mayor. The Mayor shall have the authority to award contracts within the purview of this chapter.
2. Lowest Secure Bidder. Contracts shall be awarded to the lowest secure bidder meeting specifications. Bid Specifications may include a point system for evaluating the lowest secure bid. In determining "lowest secure bidder", in addition to price, the following factors shall be considered:
 - a. The ability, capacity and skill of the bidder to perform the contract or provide the service required;
 - b. whether the bidder can perform the contract or provide the service promptly or within the time specified, without delay or interference;
 - c. the character, integrity, reputation, judgment, experience and efficiency of the bidder;
 - d. the quality of performance of previous contracts or services;
 - e. the previous and existing compliance by the bidder with laws and ordinances relating to the contract or service;

- f. the sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service;
- g. the quality, availability and adaptability of the supplies or contractual services to the particular use required;
- h. the ability of the bidder to provide future maintenance and service for the use of the subject of the contract;
- i. where an earlier delivery date would be of great benefit to the requisitioning agency, the date and terms of delivery may be considered in the bid award, and
- j. the number and scope of conditions attached to the bid.
- k. if a point system has been utilized in the bid specifications, the number of points earned by the bidder.

DESCRIPTIVE LITERATURE:

Each bidder is required to furnish with their bid, catalog cuts and/or descriptive literature, properly labeled with the bid number and bidder's name, with full illustrations and detailed specifications for each item offered as equal to the brand name specified. In addition, **All differences in specifications from the specifications stated herein must be so marked.** Descriptive literature is required to establish, for the purpose of bid evaluation and award, details of the product(s) the bidder proposes to furnish as to design, materials, method of manufacture, construction, assembly or operation, as appropriate. **Failure to submit the descriptive literature may be cause for rejection of your bid.**

Department contact Robert Fazendine, 596-1236.

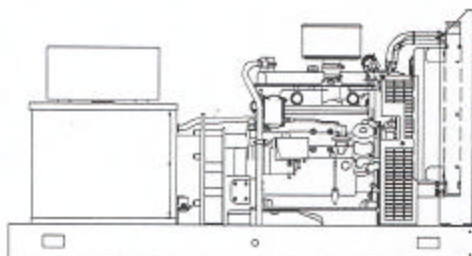
Model: 30RE0ZJ

KOHLER POWER SYSTEMS 190-600 V **4 Cycle Diesel**



Ratings Range

		60 Hz	50 Hz
Standby:	kW	33-35	26-29
	kVA	33-44	26-36
Prime:	kW	30-32	23-36
	kVA	30-40	24-33



Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The generator set provides one-step load acceptance.
- The generator set meets European and Environmental Protection Agency (EPA) emissions standards.
- A one-year limited warranty covers all systems and components. Two-, five-, and ten-year extended warranties are also available.
- Generator features:
 - Kohler's unique Fast-Response™ excitation system delivers the fastest voltage response in the industry.
 - The brushless, rotating-field generator has broadrange reconnectability.
 - Kohler's permanent magnet-excited generator (PMG) provides superior short-circuit capability.
- Other features:
 - Controllers are available for all applications. See controller features inside.
 - Low coolant level shutdown prevents overheating.
 - Integral vibration isolation eliminates the need for under-unit vibration spring isolators.

Generator Ratings

Generator	Voltage	PH	Hz	130°C Rise Standby Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
120/206	3	60	35/44	121	32/40	111	
120/240	3	60	35/44	105	32/40	96	
120/240	1	60	33/33	138	30/30	125	
127/220	3	60	34/43	112	31/39	102	
139/240	3	60	34/43	102	31/39	83	
220/380	3	60	35/44	86	32/40	61	
277/480	3	60	34/43	51	31/39	47	
347/600	3	60	33/41	40	30/38	35	
4P5							
110/190	3	50	27/34	103	25/31	95	
110/220	3	50	29/36	94	28/33	85	
110/220	1	50	26/26	118	24/24	109	
115/200	3	50	29/33	95	24/30	87	
120/208	3	50	26/33	92	23/29	80	
220/380	3	50	27/34	52	25/31	48	
230/400	3	50	26/33	48	24/30	43	
240/416	3	50	26/33	46	23/29	40	

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor. Standby Ratings: 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, BS 5514, AS 2798, and DIN 6271. Prime Power Ratings: Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour a twelve. Ratings are in accordance with ISO 3046-1, BS 5514, AS 2798, and DIN 6271. For limited running time and base load ratings, consult the factory. Obtain the technical information bulletin (TIB-101) on ratings guidelines for the complete ratings definitions. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. NOTE: Order separate generator set specs for 50 or 60 Hz as the model cannot change frequency. GENERAL GUIDELINES FOR OPERATION: ALTITUDE: Derate 3.0% per 305 m (1000 ft.) elevation above 1066 m (3500 ft.) up to 3050 m (10000 ft.). TEMPERATURE: Derate 1.5% per 5 °C (10 °F) temperature above 43 °C (104 °F).

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Alternator Specifications

Specifications	Generator
Manufacturer	Kohler
Type	4-Pole, Rotating Field
Exciter type	Brushless Permanent Magnet
Leads: quantity, type	12, Reconnectable
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1-1.66
Material	Class H
Temperature rise	130°C, Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Voltage regulation, no load to full load	±2%
Unbalanced load capability	100% of Rated Standby Current
One-step load acceptance	100% of Rating
Peak motor starting kVA:	(35% dip for voltages below)
480 V, 380 V 4P5 (12 lead)	140 (60 Hz), 95 (50 Hz)

- Complies with NEMA, IEEE, and ANSI standards for temperature rise.
- Sustains short-circuit current of up to 300% of rated current for up to 10 seconds.
- Sustains short-circuit current enabling downstream circuit breakers to trip without collapsing the generator field.
- Self-ventilation, drip-proof construction.
- Vacuum-impregnated windings with fungus-resistant epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.
- Solid-state, volts-per-hertz voltage regulator with ±2% no-load to full-load regulation.
- Fast-Response™ brushless alternator with brushless exciter for excellent load response.

Application Data

Engine

Engine Specifications	60 Hz	50 Hz
Manufacturer	John Deere	
Engine: model, type	4045DF150, 4-Cycle, Naturally Aspirated	
Cylinder arrangement	4 In-line	
Displacement, L (cu. in.)	4.52 (276)	
Bore and stroke, mm (in.)	106.5 x 127 (4.19 x 5.00)	
Compression ratio	17.5:1	
Piston speed, m/sec. (ft./min.)	7.6 (1500)	6.4 (1250)
Main bearings: quantity, type	5, Replaceable Insert	
Rated rpm	1800	1500
Max. power at rated rpm, kWm (BHP)	53 (71)	44 (59)
Engine power at standby rating, kWm (BHP)	44 (59)	35 (47)
Cylinder head material	Cast Iron	
Crankshaft material	Forged Steel	
Valve material:		
Intake	Chromium-Silicon Steel	
Exhaust	Stainless Steel	
Governor: type, make/model	Mechanical, Stanadyne/DB2	
Frequency regulation, no load to full load	3-5%	
Frequency regulation, steady state	±0.33% (mech. governor) ±0.25% (elect. isoch. gov.)	
Air cleaner type, all models	Dry	

Exhaust

Exhaust System	60 Hz	50 Hz
Exhaust flow at rated kW, m ³ /min. (cfm)	9.0 (318)	7.3 (258)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	593 (1100)	596 (1050)
Maximum allowable back pressure, kPa (in. Hg)	7.5 (2.2)	
Exhaust outlet size at engine hookup, mm (in.)	83.5 (2.5)	

Engine Electrical

Engine Electrical System (12/24 V*)	60 Hz	50 Hz
Battery charging alternator:	12 Volt/24 Volt	
Ground (negative/positive)	Negative	
Volts (DC)	12/24	
Ampere rating	65/45	
Starter motor rated voltage (DC)	12/24	
Battery, recommended cold cranking amps (CCA):		
Quantity, CCA rating	1, 640/2, 575	
Battery voltage (DC)	12	

* 12-volt or 24-volt engine electrical systems are available.

Fuel

Fuel System	60 Hz	50 Hz
Fuel supply line, min. ID, mm (in.)	6 (0.31)	
Fuel return line, min. ID, mm (in.)	6 (0.25)	
Max. lift, engine-driven fuel pump, m (ft.)	0.9 (3.0)	
Max. fuel flow, Lph (gph)	117 (30.8)	113 (29.7)
Fuel prime pump	Manual	
Fuel filter	1, Final	
Recommended fuel	#2 Diesel	

Lubrication

Lubricating System	60 Hz	50 Hz
Type	Full Pressure	
Oil pan capacity, L (qt.)	7.6 (8)	
Oil pan capacity with filter, L (qt.)	8.5 (9)	
Oil filter: quantity, type	1, Cartridge	
Oil cooler	Water-Cooled	

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Application Data

Cooling (Standard Radiator)

Cooling System	60 Hz	50 Hz
Ambient temperature, °C (°F)	50 (122)	
Engine jacket water capacity, L (gal.)	8.5 (2.25)	
Radiator system capacity, including engine, L (gal.)	17.8 (4.7)	
Engine jacket water flow, Lpm (gpm)	144 (38)	121 (32)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	27.1 (1540)	22.0 (1250)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	483 (19)	
Fan, kWm (HP)	2.2 (2.9)	1.3 (1.7)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)	

Cooling (Optional Systems)

Remote Radiator System*	60 Hz	50 Hz
Exhaust manifold type		Dry
Connection sizes:		
Water inlet, mm (in.)	51 (2.0) ID Hose	
Water outlet, mm (in.)	44 (1.75) ID Hose	
Static head allowable above engine, kPa (ft. H ₂ O)	63 (21)	
City Water Cooling (CWC) System	60 Hz	50 Hz
Exhaust manifold type		Dry
Connection sizes:		
Water inlet, in.	0.5 NPT	
Water outlet, in.	0.5 NPT	

* Contact your local distributor for cooling system options and specifications based on your specific application.

Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m ³ /min. (scfm)†	102 (3600)	82 (2900)
Cooling air required for gen. set when equipped with CWC or remote radiator, based on 14°C (25°F) rise and ambient temp. of 29°C (85°F), m ³ /min. (cfm)	54 (1900)	40 (1400)
Combustion air, m ³ /min. (cfm)	3.3 (117)	2.6 (93)
Heat rejected to ambient air:		
Engine, kW (Btu/min.)	8.6 (290)	6.9 (230)
Generator, kW (Btu/min.)	5.6 (220)	3.9 (220)

† Air density = 1.20 kg/m³ or 0.075 lbm/ft³

Fuel Consumption	60 Hz	50 Hz
Diesel, Lph (gph) at % load	Standby	Prime
100%	11.0 (2.9)	8.3 (2.2)
75%	8.7 (2.3)	6.8 (1.8)
50%	6.8 (1.8)	5.3 (1.4)
25%	4.2 (1.1)	3.0 (0.8)

Controllers



Available Controllers

Decision-Maker™ 340 Controller

Audio/visual annunciation with NFPA 110 Level 1 capability. Programmable microprocessor logic and digital display features. 12- or 24-volt engine electrical system capability. Remote start, prime power, remote annunciation, and remote communication options.

Decision-Maker™ 3+, 16-Light Controller

Audio/visual annunciation with NFPA 110 Level 1 capability. Microprocessor logic, AC meters, and engine gauge features. 12- or 24-volt engine electrical system capability. Remote start, prime power, and remote annunciation options.

Decision-Maker™ 3+, 7-Light Controller

Audio/visual annunciation with NFPA 110 Level 2 capability. Microprocessor logic, AC meters, and engine gauge features. 12- or 24-volt engine electrical system capability. Remote start, prime power, and remote annunciation options.

Decision-Maker™ 1 Controller

Single-light annunciation and basic controls with NFPA capability. Relay logic features included with three controller options: standard, standard with engine gauges, and expanded with AC meters and engine gauges. 12-volt engine electrical system capability only. Remote or automatic start options.

Manual Controller

Single-light annunciation and basic control functions. Relay logic with AC meters and engine gauge features. Prime power and mobile application design. 12-volt engine electrical system capability only.

Engine Gauge Box Controller for Paralleling Switchgear

Generator set-to-switchgear interface for paralleling switchgear applications. Engine gauges and emergency stop switch features. 12- or 24-volt engine electrical system capability.

NOTE: See the respective controller spec sheet for additional controller features and accessories.

KOHLER CO., Kohler, Wisconsin 53044 U.S.A.
 Phone 920-565-3381, Web site www.kohlergenerators.com
 Fax 920-459-1646 (U.S.A. Sales), Fax 920-459-1614 (International)
 For the nearest sales and service outlet in U.S.A. and Canada
 Phone 1-800-544-2444

Kohler® Power Systems
 Asia Pacific Headquarters
 7 Jurong Pier Road
 Singapore 619159
 Phone (65)264-8422, Fax (65)264-6466

Standard Features and Accessories

Additional Standard Features

- Battery Rack and Cables
- Emission Compliant Engine
- Integral Vibration Isolation
- Oil Drain Extension
- Operation and Installation Literature
- Permanent Magnet-Excited Generator (PMG)

Accessories

Enclosed Unit

- Exhaust Silencer, Critical or Industrial
- Silencer Mounting Kit for Housing
- Sound Shield Enclosure
- Tail Pipe and Rain Cap Kit
- Weather Housing

Open Unit

- Exhaust Silencer, Critical or Industrial
- Flexible Exhaust Connector, Stainless Steel

Cooling System

- Block Heater
- City Water Cooling
- Radiator Duct Flange
- Remote Radiator Cooling

Fuel System

- Auxiliary Fuel Pump
- Day Tanks
- Flexible Fuel Lines
- Fuel Pressure Gauge
- Subbase Fuel Tanks

Electrical System

- Battery
- Battery Charger, Equalize/Float Type
- Battery Heater

Engine and Generator

- Air Cleaner, Heavy Duty
- Air Cleaner Restriction Indicator
- Bus Bar Kits
- CSA Certification
- Current Transformer Kit
- Electronic Isynchronous Governor ($\pm 0.25\%$ freq. reg. steady state)
- Generator Strip Heater
- Line Circuit Breaker (NEMA type 1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA type 1 enclosure)
- NFPA 110 Literature
- Optional Generators
- Rated Power Factor Testing
- Rodent Guards
- Safeguard Breaker
- Skid End Caps
- Voltage Regulation, 1%
- Voltage Regulator Bypassing, Three-Phase

Paralleling System

- Load-Sharing Module
- Reactive Droop Compensator
- Remote Speed Adjust Potentiometer/Electronic Governor
- Voltage Adjust Potentiometer
- Voltage Regulator Relocation Kit

Maintenance

- General Maintenance Literature Kit
- Maintenance Kit (includes standard air, oil, and fuel filters)
- Overhaul Literature Kit
- Production Literature Kit

Controller (Decision-Maker™ 340 and Decision-Maker™ 3+))

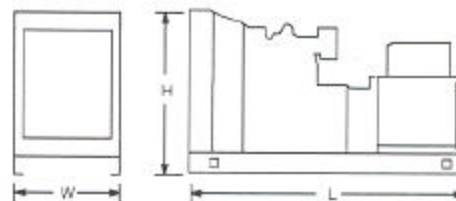
- Common Failure Relay Kit
- Communication Products and PC Software (Decision-Maker™ 340 controller only)
- Controller Cable, 12 m (40 ft.)
- Customer Connection Kit
- Dry Contact Kit (isolated alarm)
- Engine Prealarm Sender Kit
- Prime Power Switch
- Remote Annunciator Panel
- Remote Audio/Visual Alarm Panel
- Remote Emergency Stop Kit
- Run Relay Kit

Miscellaneous Accessories

- _____
- _____

WEIGHTS AND DIMENSIONS

Overall Size, L x W x H, mm (in.): 2083 x 787 x 1158
 (82.00 x 31.00 x 45.51)
 Weight (radiator model), wt, kg (lb.): 816 (1800)



NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

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