



**Sound Enclosure**

### 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 60 Hz generator set is UL 2200 listed.
- The 60 Hz generator set engine is certified by the Environmental Protection Agency (EPA) to conform to the New Source Performance Standard (NSPS) for stationary spark-ignited emissions.
- Residential generator sets are approved for outdoor installation in stationary standby applications served by a reliable utility source.
- The generator set has a five-year limited warranty.
- Engine features:
  - Natural gas or LP gas fueled
  - Electronic engine controls for optimized fuel and spark performance
  - Four cylinder, four cycle engine
  - An electronic, isochronous governor for precise frequency regulation
  - High silicon content pistons for improved durability
- ADC 2100 digital controller features:
  - LED display provides diagnostic capability
  - Digital voltage regulator with  $\pm 1.5\%$  no-load to full-load regulation
  - Superior electronics protection from corrosion and vibration
- Enclosure features:
  - Model 30RESA generator sets are equipped with factory-installed sound enclosures.
  - Enclosures reduce sound levels and protect the generator set from the elements, animal intrusion, and unwanted entry.
  - Fade-, scratch-, and corrosion-resistant Kohler® cream beige finish
  - Internal silencer
  - Lockable door latches
  - Sound enclosure additional features:
    - Acoustic insulation that meets UL 94 HF1 flammability classification
    - Low profile with pitched roof to minimize water accumulation
    - Sound-attenuating design to reduce noise levels
    - Hinged, removable doors to allow maximum access
    - Factory-installed

### Generator Set Ratings

Model	Alternator	Voltage	Ph	Hz	Standby Ratings *			
					Natural Gas		LP Gas	
					kW/kVA	Amps	kW/kVA	Amps
30RESA	2F7	120/240	1	60	27.0/27.0	112	30.0/30.0	125
	2F7	110/220	1	50	23.3/23.3	106	25.5/25.5	116

\* RATINGS: *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 2789, and DIN 6271. Obtain the technical information bulletin on ratings guidelines (TIB-101) for 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. GENERAL GUIDELINES FOR DERATING: *Altitude:* Derate 1.5% per 305 m (1000 ft.) elevation above 1006 m (3300 ft.). *Temperature:* Derate 2.0% per 5.5°C (10°F) temperature above 21°C (70°F).

# Alternator Specifications

Specifications	Alternator
Manufacturer	Kohler
Type	2-Pole, Brush Type
Leads: quantity	4 Lead
Voltage regulator	Digital
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 RMS	±1.5%
Unbalanced load capability	100% of Rated Standby Current
Peak motor starting kVA:	35% dip for voltages below
240 V   2F7 (4 lead)	41 (60 Hz)
220 V   2F7 (4 lead)	28.5 (50 Hz)

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and dripproof 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.
- Digital voltage regulator with ±1.5% no-load to full-load regulation.

## Application Data

### Engine

Engine Specifications	60 Hz	50 Hz
Manufacturer	GM	
Engine: model, type	GM 1.6L OHC	
Cylinder arrangement	4, Inline	
Displacement, L (cu. in.)	1.6 (98)	
Bore and stroke, mm (in.)	79 (3.11) x 81.5 (3.21)	
Compression ratio	9.4:1	
Piston speed, m/min. (ft./min.)	586 (1925)	488 (1603)
Main bearings: quantity, type	5, Replaceable Inserts	
Rated rpm	3600	3000
Max. power at rated rpm, kWm (BHP)	38.8 (52.0)	35.1 (47.1)
Cylinder head material	Aluminum	
Crankshaft material	Cast Iron	
Valve (exhaust) material	High Alloy Steel	
Governor type	Electronic	
Frequency regulation, no load to full load	Isochronous	
Frequency regulation, steady state	±0.5%	
Air cleaner type, all models	Dry	

### Engine Electrical

Engine Electrical System	
Ignition system	Electronic
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	12
Ampere rating	70
Starter motor rated voltage (DC)	12
Battery, recommended cold cranking amps (CCA):	525
Battery voltage (DC)	12

### Exhaust

Exhaust System	60 Hz	50 Hz
Exhaust manifold type	Dry	
Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)	8.35 (295)	6.95 (245)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	760 (1400)	
Maximum allowable back pressure, kPa (in. Hg)	10.2 (3.0)	
Exhaust outlet size at engine hookup, mm (in.)	50.8 (2.0)	

### Fuel

Fuel System		
Fuel type	LP Gas or Natural Gas	
Fuel supply inlet	3/4 NPT	
Fuel supply pressure, kPa (in. H <sub>2</sub> O)	1.74-2.74 (7-11)	
Fuel Composition Limits *	Nat. Gas    LP Gas	
Methane, % by volume	90 min.    —	
Ethane, % by volume	4.0 max.    —	
Propane, % by volume	1.0 max.    85 min.	
Propene, % by volume	0.1 max.    5.0 max.	
C <sub>4</sub> and higher, % by volume	0.3 max.    2.5 max.	
Sulfur, ppm mass	25 max.	
Lower heating value, kJ/m <sup>3</sup> (Btu/ft <sup>3</sup> ), min.	26.6 (890)	67.5 (2260)

\* Fuels with other compositions may be acceptable. If your fuel is outside the listed specifications, contact your local distributor for further analysis and advice.

### Lubrication

Lubricating System	
Type	Full Pressure
Oil pan capacity, L (qt.)	3.2 (3.4)
Oil pan capacity with filter, L (qt.)	3.5 (3.7)
Oil filter: quantity, type	1, Cartridge

# Application Data

## Cooling (Standard Radiator)

Cooling System	60 Hz	50 Hz
Ambient temperature °C (°F)	40 (104)	
Engine jacket water capacity, L (gal.)	3.3 (0.9)	
Engine jacket water flow, Lpm (gpm)	64.4 (17.0)	50.0 (13.2)
Radiator system capacity, including engine, L (gal.)	11.5 (3.0)	
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	31.5 (1791)	24.5 (1393)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	406 (16.0)	
Fan, kWm (HP)	1.8 (2.5)	
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H <sub>2</sub> O)	0.13 (0.5)	

## Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m <sup>3</sup> /min. (scfm)*	142 (5000)	113 (4000)
Combustion air, m <sup>3</sup> /min. (cfm)	1.8 (65)	1.5 (54)
Heat rejected to ambient air:		
Engine, kW (Btu/min.)	10.5 (600)	8.8 (500)
Alternator, kW (Btu/min.)	6.6 (376)	5.3 (302)

\* Air density = 1.20 kg/m<sup>3</sup> or 0.075 lbm/ft.<sup>3</sup>

Fuel Consumption at % rated load	60 Hz	50 Hz
<b>Natural Gas, m<sup>3</sup>/hr. (cfh)</b>		
100%	12.7 (450)	9.9 (350)
75%	10.6 (375)	8.5 (300)
50%	8.5 (300)	6.4 (225)
25%	6.4 (225)	5.0 (175)
<b>LP Gas, m<sup>3</sup>/hr. (cfh)</b>		
100%	5.1 (180)	4.0 (140)
75%	4.2 (150)	3.3 (115)
50%	3.4 (120)	2.4 (85)
25%	2.5 (90)	1.8 (65)
<b>LP Gas, kg/hr. (lb./hr.)</b>		
100%	9.5 (21.0)	7.4 (16.3)
75%	7.8 (17.5)	6.1 (13.4)
50%	6.4 (14.0)	4.5 (9.9)
25%	4.7 (10.5)	3.4 (7.6)

Nominal fuel rating: Natural gas: 37 MJ/m<sup>3</sup> (1000 Btu/ft.<sup>3</sup>)  
 LP gas: 93 MJ/m<sup>3</sup> (2500 Btu/ft.<sup>3</sup>)

LP gas conversion factors: 8.58 ft.<sup>3</sup> = 1 lb.  
 0.535 m<sup>3</sup> = 1 kg  
 36.39 ft.<sup>3</sup> = 1 gal.

## Sound

Average Sound Levels at 7 m(23 ft.) (no load)	dBA
With Sound Enclosure	68

# Controller



## Advanced Digital Control Features

- Compact controller
- Integrally mounted to the generator set
- LED display:
  - Runtime hours
  - Crank cycle status
  - Diagnostics
  - Application software version
- LED display communicates faults:
  - Auxiliary fault
  - High battery voltage
  - High engine temperature
  - Low battery voltage
  - Low oil pressure
  - Overcrank safety
  - Overspeed
  - Overfrequency
  - Overvoltage
  - Underfrequency
  - Undervoltage
- Membrane keypad for configuration and adjustment
  - Password-protected user access to menus
  - Voltage, gain, and speed adjustment
  - System configuration: system voltage, phase, and frequency settings, battery voltage, and generator set model
- Master switch: Run/Off-Reset/Auto
- Remote two-wire start/stop capability
- Superior electronics protection from corrosion and vibration
  - Potted electronics
  - Sealed connections
- Digital voltage regulation: ± 1.5% RMS no-load to full-load
- Automatic start with programmed cranking cycle

## Standard Features

- ADC 2100 Digital Controller
- Base Frame with Steel Skid
- Battery Rack and Cables
- Electronic, Isochronous Governor
- Engine Shutdowns for High Engine Temperature and Low Oil Pressure
- Flexible Fuel Line
- Gas Fuel System (includes two fuel solenoid valves, fuel mixer, and electronic secondary gas regulator)
- Integral Vibration Isolation
- Oil Drain Extension
- Operation and Installation Literature
- Remote Wiring Harness, 305 mm (12 in.) pigtail
- Unit-Mounted Radiator System
- Sound Enclosure with Silencer
- Warranty, Five-Year Limited

## Available Accessories

### Communication Accessories

- OnCue™ Home Generator Management System

### Enclosure

- High Wind Kit for Sound Enclosure

### Fuel System

- Natural Gas Strainer

### Electrical System

- Battery
- Battery Charger, Equalize/Float Type
- Battery Heater
- Remote Connection/Extension Harnesses, 4.6 or 7.6 m (15 or 25 ft.)

### Engine and Alternator

- Air Cleaner Restriction Indicator
- Block Heater (recommended for ambient temperatures below 0°C (32°F))
- Engine Coolant (installed)
- Oil Makeup Kit
- Line Circuit Breaker, 100 amp or 125 amp
- Rodent Guards

### Controller

- Relay Kit, Includes Run Relay and Common Fault Relay
- Remote Digital Gauge

### Maintenance and Literature

- General Maintenance Literature Kit
- Overhaul Literature Kit
- Production Literature Kit
- Maintenance Kit (includes air filter, oil filter, and belt)

### Miscellaneous Accessories

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## Dimensions and Weights

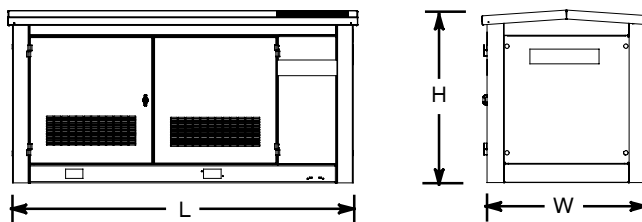
### With Sound Enclosure

Overall Size, L x W x H, mm (in.):

1850 x 919 x 935  
 (72.8 x 36.2 x 36.8)

Weight, wet, kg (lb.):

475 (1046)



**NOTE:** These drawings are provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

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