



## The Kohler® Advantage

- **High Quality Power**  
Kohler home generators provide advanced voltage and frequency regulation along with ultra-low levels of harmonic distortion for excellent generator power quality to protect your valuable electronics.
- **Extraordinary Reliability**  
Kohler is known for extraordinary reliability and performance and backs that up with an industry-leading 5-year or 2000 hour warranty.
- **Powerful Performance**  
Exclusive Powerboost™ technology provides excellent starting power. The Kohler 14 kW generator can easily start and run a 5 ton air conditioner.\*
- **Corrosion-Proof Enclosure**  
The bold new Kohler design is completely corrosion proof, even in harsh seaside environments, and is impact-resistant even at -34° C (-30° F).
- **Fast Response**  
Kohler's unique Fast-Response™ excitation system delivers excellent voltage response and short-circuit capability.
- **Quiet Operation**  
Kohler home generators provide quiet, neighborhood-friendly performance.

## Standard Features

- **RDC2 Controller**
  - One digital controller manages both the generator set and transfer switch functions (with optional Model RXT transfer switch).
  - Designed for today's most sophisticated electronics.
  - Electronic speed control responds quickly to varying household demand.
  - Digital voltage regulation protects your sensitive electronics from harmonic distortion and unstable power quality.
  - Two-line, backlit LCD display with adjustable contrast is easy to read, even in direct sunlight or low light.
- **Kohler Command PRO Engine Features**
  - Kohler Command PRO® OHV engine with hydraulic valve lifters for reliable performance without routine valve adjustment or lengthy break-in requirements.
  - Powerful, reliable air-cooled performance.
  - Simple field conversion between natural gas and LPG fuels while maintaining emission certification.
- **Designed for Easy Installation**
  - Polymer base eliminates the need for a concrete mounting pad, reducing installation time and cost.
  - Hinged, locking roof.
  - Fuel and electrical connections through the enclosure wall eliminate the need for stub-ups through the bottom.
  - Load connection terminal block allows easy field wiring.
  - Designed for outdoor installation only.
- **Certifications**
  - Meets emission regulations for U.S. Environmental Protection Agency (EPA) with both natural gas and LPG. **Note:** CARB does not regulate emergency standby generators with outputs less than 50 HP. Only the EPA standards apply.
  - UL 2200 listed (60 Hz model).
  - CSA certification available (60 Hz model).
  - GOST certified (Russia).
- **Warranty**
  - 5-year/2000 hour warranty for on-grid (standby) applications in locations served by a reliable utility source.
  - 18 month/1000 hour warranty for off-grid (non-standby) applications (Model 14RESA only).

## Generator Ratings

| Model  | Voltage | Phase | Hz | Alternator | Standby Ratings |      |        |      |
|--------|---------|-------|----|------------|-----------------|------|--------|------|
|        |         |       |    |            | Natural Gas     |      | LPG    |      |
|        |         |       |    |            | kW/kVA          | Amps | kW/kVA | Amps |
| 14RESA | 120/240 | 1     | 60 | 2F5        | 12/12           | 50.0 | 14/14  | 58.3 |
|        | 115/230 | 1     | 50 | 2F5        | 10/10           | 43.5 | 11/11  | 47.8 |
| 20RESA | 120/240 | 1     | 60 | 2F7        | 18/18           | 75.0 | 20/20  | 83.3 |
|        | 115/230 | 1     | 50 | 2F7        | 14/14           | 60.8 | 15/15  | 65.2 |

RATINGS: Standby ratings apply to installations served by a reliable utility source. All single-phase units are rated at 1.0 power factor. The standby rating is applicable to variable loads with an average load factor of 80% for the duration of the power outage. No overload capacity is specified at this rating. Ratings are in accordance with ISO-3046/1, BS5514, AS2789, and DIN 6271. GENERAL GUIDELINES FOR DERATING: **ALTITUDE:** Derate 4% per 305 m (1000 ft.) elevation above 153 m (500 ft.). **TEMPERATURE:** Derate 2% per 5.5°C (10°F) temperature increase above 16°C (60°F). Availability is subject to change without notice. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local Kohler Co. generator distributor for availability.

\* Check the appliance manufacturer's specifications for actual power requirements. Consult a Kohler® Power Systems professional to calculate your exact residential power system requirements.

# Alternator Specifications

## Alternator Specifications

| Specifications                               | PowerBoost™ Generator<br>1-Phase |
|--|----------------------------------|
| Manufacturer                                 | Kohler                           |
| Output reconnectable                         | 120/240                          |
| Type   | 2-Pole, Rotating Field           |
| Leads, quantity                              | 4                                |
| Voltage regulator                            | Digital                          |
| Insulation:                                  | NEMA MG1-1.66                    |
| Material                                     | Class H                          |
| Temperature rise                             | Class H                          |
| Bearing: quantity, type                      | 1, Sealed Ball                   |
| Coupling                                     | Direct                           |
| Amortisseur windings                         | Full                             |
| Voltage regulation, no-load to full-load RMS | ± 1.0%                           |
| One-step load acceptance                     | 100% of Rating                   |
| Peak motor starting kVA @ 240 V:             |                                  |
| 14RESA                                       | 35                               |
| 20RESA                                       | 40.5                             |

## Alternator Features

- Compliance with NEMA, IEEE, and ANSI standards for temperature rise.
- Self-ventilated and dripproof construction.
- Vacuum-impregnated windings with fungus-resistant epoxy varnish for dependability and long life.
- Superior voltage waveform and minimum harmonic distortion from skewed alternator construction.
- Digital voltage regulator with ±1.0% no-load to full-load RMS regulation.
- Rotating-field alternator with static exciter for excellent load response.
- Total harmonic distortion (THD) from no load to full load with a linear load is less than 5%.

## Application Data

### Engine

| Engine Specifications                      | 14RESA                     | 20RESA                    |
|--|----------------------------|---------------------------|
| Manufacturer                               | Kohler                     |                           |
| Engine: model, type                        | CH740<br>4-Cycle           | CH1000<br>4-Cycle         |
| Cylinder arrangement                       | V-2                        |                           |
| Displacement, cm <sup>3</sup> (cu. in.)    | 725 (44)                   | 999 (61)                  |
| Bore and stroke, mm (in.)                  | 83 x 67<br>(3.27 x 2.64)   | 90 x 78.5<br>(3.54 x 3.1) |
| Compression ratio                          | 9:1                        | 8.8:1                     |
| Main bearings: quantity, type              | 2, Parent Material         |                           |
| Rated RPM                                  |                            |                           |
| 60 Hz                                      | 3600                       |                           |
| 50 Hz                                      | 3000                       |                           |
| Max. engine power at rated rpm, kW (HP)    |                            |                           |
| LPG, 60 Hz                                 | 17.6 (23.6)                | 23.0 (30.9)               |
| LPG, 50 Hz                                 | 15.8 (21.2)                | 20.0 (26.8)               |
| Natural gas, 60 Hz                         | 15.3 (20.5)                | 20.2 (27.1)               |
| Natural gas, 50 Hz                         | 13.8 (18.5)                | 16.8 (22.5)               |
| Cylinder head material                     | Aluminum                   |                           |
| Valve material                             | Steel/Stellite®            |                           |
| Piston type and material                   | Aluminum Alloy             |                           |
| Crankshaft material                        | Heat Treated, Ductile Iron |                           |
| Governor: type                             | Electronic                 |                           |
| Frequency regulation, no load to full load | Isochronous                |                           |
| Frequency regulation, steady state         | ±0.5%                      |                           |
| Air cleaner type                           | Dry                        |                           |

### Exhaust

| Exhaust System  | 14RESA    | 20RESA |
|---|-----------|--------|
| Exhaust temperature exiting the enclosure at rated kW, dry, °C (°F) | 260 (500) |        |

### Engine Electrical

| Engine Electrical System                                     | 14RESA                           | 20RESA |
|--|----------------------------------|--------|
| Ignition system  | Electronic, Capacitive Discharge |        |
| Starter motor rated voltage (DC)                             | 12                               |        |
| Battery (purchased separately):                              |                                  |        |
| Ground   | Negative                         |        |
| Volts (DC)   | 12                               |        |
| Battery quantity   | 1                                |        |
| Recommended cold cranking amps: (CCA) rating for -18°C (0°F) | 500                              |        |
| Group size   | 51                               |        |

### Lubrication

| Lubricating System                    | 14RESA        | 20RESA    |
|---------------------------------------|---------------|-----------|
| Type                                  | Full Pressure |           |
| Oil capacity (with filter), L (qt.) * | 1.8 (1.9)     | 2.7 (2.9) |
| Oil filter: quantity, type            | 1, Cartridge  |           |
| Oil cooler                            | Integral      |           |

\* Oil capacity for a new, dry engine.

### Fuel Pipe Size

| Minimum Gas Pipe Size Recommendation, in. NPT |                 |                 |                 |                 |
|---|-----------------|-----------------|-----------------|-----------------|
| Pipe Length, m (ft.)                          | 14RESA          |                 | 20RESA          |                 |
|   | Natural Gas     | LPG             | Natural Gas     | LPG             |
| 8 (25)  | 193,000 Btu/hr. | 203,000 Btu/hr. | 281,000 Btu/hr. | 340,000 Btu/hr. |
| 15 (50)                                       | 3/4             | 3/4             | 1               | 3/4             |
| 30 (100)                                      | 1               | 3/4             | 1               | 1               |
| 46 (150)                                      | 1               | 1               | 1 1/4           | 1               |
| 61 (200)                                      | 1 1/4           | 1               | 1 1/4           | 1 1/4           |

## Fuel Requirements

| Fuel System                                       | 14RESA             | 20RESA |
|---|--------------------|--------|
| Fuel types  | Natural Gas or LPG |        |
| Fuel supply inlet                                 | 1/2 NPT            |        |
| Fuel supply pressure, kPa (in. H <sub>2</sub> O): |                    |        |
| Natural gas                                       | 1.2-2.7 (5-11)     |        |
| LP  | 1.7-2.7 (7-11)     |        |

| Fuel Composition Limits *  | Nat. Gas   | LPG         |
|--|------------|-------------|
| Methane, % by volume (minimum)   | 90 min.    | —           |
| Ethane, % by volume (maximum)  | 4.0 max.   | —           |
| Propane, % by volume   | 1.0 max.   | 85 min.     |
| Propene, % by volume (maximum)   | 0.1 max.   | 5.0 max.    |
| C <sub>4</sub> and higher, % by volume                                   | 0.3 max.   | 2.5 max.    |
| Sulfur, ppm mass (maximum)   | 25 max.    |             |
| Lower heating value, MJ/m <sup>3</sup> (Btu/ft <sup>3</sup> ), (minimum) | 33.2 (890) | 84.2 (2260) |

\* Contact your local distributor for suitability and rating derates based on fuel compositions outside these limits.

## Operation Requirements

| Fuel Consumption |             |          | Fuel Consumption, m <sup>3</sup> /hr. (cfh) |           |
|------------------|-------------|----------|---|-----------|
| Model            | Fuel Type   | % Load   | 60 Hz                                       | 50 Hz     |
| 14RESA           | Natural Gas | 100      | 5.4 (193)                                   | 4.9 (175) |
|                  |             | 75       | 4.7 (163)                                   | 4.2 (148) |
|                  |             | 50       | 3.5 (124)                                   | 3.1 (108) |
|                  |             | 25       | 2.6 (93)                                    | 2.4 (84)  |
|                  |             | Exercise | 1.7 (60)                                    | 1.7 (60)  |
|                  |             | 20RESA   | Natural Gas                                 | 100       |
| 75               | 6.9 (243)   |          |   | 5.4 (189) |
| 50               | 4.6 (161)   |          |   | 3.9 (139) |
| 25               | 3.6 (127)   |          |   | 2.9 (103) |
| Exercise         | 2.0 (71)    |          |   | 2.0 (71)  |
| 14RESA           | LPG         |          |   | 100       |
|                  |             | 75       | 2.1 (75)                                    | 1.9 (68)  |
|                  |             | 50       | 1.8 (60)                                    | 1.5 (53)  |
|                  |             | 25       | 1.2 (45)                                    | 1.1 (40)  |
|                  |             | Exercise | 0.8 (30)                                    | 0.8 (30)  |
|                  |             | 20RESA   | LPG   | 100       |
| 75               | 3.1 (109)   |          |   | 2.4 (85)  |
| 50               | 2.3 (82)    |          |   | 1.8 (63)  |
| 25               | 1.7 (59)    |          |   | 1.3 (47)  |
| Exercise         | 1.0 (35)    |          |   | 1.0 (35)  |

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

LPG 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 Data

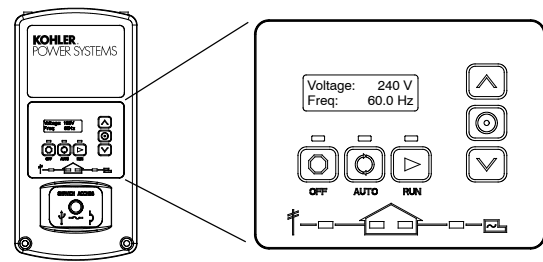
Model 14RESA 8 point logarithmic average sound levels are 63 dB(A) during weekly engine exercise and 67 dB(A) during full-speed generator diagnostics and normal operation. For comparison to competitor ratings, the lowest sound levels are 58 dB(A) and 63 dB(A) respectively.\*

Model 20RESA 8 point logarithmic average sound levels are 64 dB(A) during weekly engine exercise and 69 dB(A) during full-speed generator diagnostics and normal operation. For comparison to competitor ratings, the lowest point sound levels are 62 dB(A) and 67 dB(A) respectively.\*

All sound levels are measured at 7 meters with no load.

\* Lowest of 8 points measured around the generator. Sound levels at other points around generator may vary depending on installation parameters.

## RDC2 Controller



The RDC2 controller provides integrated control for the generator set, Kohler® Model RXT transfer switch, programmable interface module (PIM), and load control module (LCM).

The RDC2 controller's 2-line LCD screen displays status messages and system settings that are clear and easy to read, even in direct sunlight or low light.

## RDC2 Controller Features

- Membrane keypad:
  - OFF, AUTO, and RUN pushbuttons
  - Select and arrow buttons for access to system configuration and adjustment menus
- LED indicators for OFF, AUTO, and RUN modes
- LED indicators for utility power and generator set source availability and ATS position (Model RXT transfer switch required)
- LCD display:
  - Two lines x 16 characters per line
  - Backlit display with adjustable contrast for excellent visibility in all lighting conditions
- Scrolling system status display:
  - Generator set status
  - Voltage and frequency
  - Engine temperature
  - Oil pressure
  - Battery voltage
  - Engine runtime hours
- Date and time displays
- Smart engine cooldown senses engine temperature
- Digital isochronous governor to maintain steady-state speed at all loads
- Digital voltage regulation: ± 1.0% RMS no-load to full-load
- Automatic start with programmed cranking cycle
- Programmable exerciser can be set to start automatically on any future day and time, and run every week or every two weeks
- Exercise modes:
  - Unloaded weekly exercise with complete system diagnostics
  - Unloaded full-speed exercise
  - Loaded full-speed exercise (Model RXT ATS required)
- Front-access mini USB connector for SiteTech™ connection
- Front access mini-breaker protects the alternator
- Integral Ethernet connector for Kohler® OnCue®
- Built-in 2.5 amp battery charger
- Remote two-wire start/stop capability for optional connection of Model RDT or RSB transfer switches

See additional controller features on the next page.

## Additional RDC2 Controller Features

- Diagnostic messages:
  - Displays diagnostic messages for the engine, generator, Model RXT transfer switch, programmable interface module (PIM), and load control module (LCM)
  - Over 70 diagnostic messages can be displayed
- Maintenance reminders
- System settings:
  - System voltage, frequency, and phase
  - Voltage adjustment
  - Measurement system, English or metric
- ATS status (Model RXT ATS required):
  - Source availability
  - ATS position (normal/utility or emergency/generator)
  - Source voltage and frequency
- ATS control (Model RXT ATS required):
  - Source voltage and frequency settings
  - Engine start time delay
  - Transfer time delays
  - Voltage calibration
  - Fixed pickup and dropout settings
- Programmable Interface Module (PIM) status displays:
  - Input status (active/inactive)
  - Output status (active/inactive)
- Load control module (LCM) menus:
  - Load status
  - Test function

## Generator Set Standard Features

- Battery cables
- EPA certified fuel system
- Corrosion-proof polymer sound enclosure
- Critical silencer
- Field-connection terminal block
- Fuel solenoid valve and secondary regulator
- Line circuit breaker:
  - 14RESA: 70 amps
  - 20RESA: 100 amps
- Multi-fuel system, LPG/natural gas, field-convertible
- Oil drain extension with shutoff valve
- Premium 5-year limited warranty
- 18-month limited warranty for non-standby (off-grid) applications (14RESA only)
- RDC2 generator set/ATS controller
- Rodent-resistant construction
- Sound-deadening, flame-retardant foam per UL 94, class HF-1

## Available Options

### Approvals and Listings

- CSA approval

### Communication Accessories

- OnCue® Generator Management System

## Available Options, Continued

### Concrete Mounting Pads

- Concrete mounting pad, 3 in. thick
- Concrete mounting pad, 4 in. thick (recommended for storm-prone areas)

### Controller Accessories

- Emergency stop kit
- Programmable interface module (PIM) (provides 2 digital inputs and 6 relay outputs)
- Load control module (LCM) (provides 4 power relays and 2 HVAC relays)

### Electrical System

- Battery
- Battery heater

### Fuel System

- Braided stainless steel flexible fuel line

### Literature

- General maintenance literature kit
- Overhaul literature kit
- Production literature kit

### Starting Aids

- Carburetor heater, 120 VAC (recommended for reliable starting at temperatures below 0°C [32°F])
- Fuel regulator heater pad (20RESA; recommended for reliable starting at temperatures below -18°C [0°F])

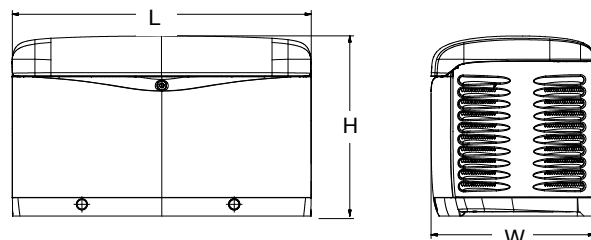
### Kohler® Automatic Transfer Switch

- Model RXT, see specification sheet G11-121
- Model RDT, see specification sheet G11-98
- Model RSB, see specification sheet G11-101
- Other Kohler® ATS

## Generator Set Dimensions and Weights

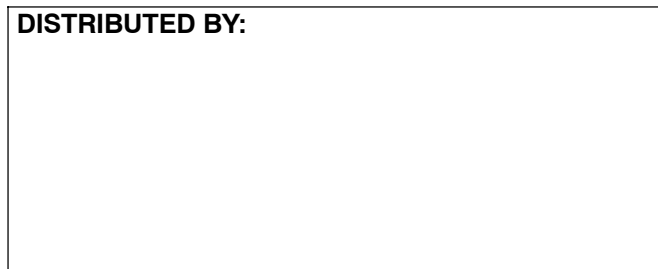
Overall Size, L x W x H: 1216 x 665 x 733 mm  
(48 x 26.2 x 29 in.)

Shipping Weight: 14RESA 191 kg (420 lb.)  
20RESA 243 kg (535 lb.)



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

## DISTRIBUTED BY:



© 2011, 2012, 2013, 2014 by Kohler Co. All rights reserved.