## Models: 10/12RESVL

# KOHLER. Power Systems

Multi-Fuel LPG/Natural Gas





## 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 a 5-year or 2000 hour limited warranty.

#### • Perfect for Tight Lot Lines

Can be placed as close as 18 inches from your home or small business, providing installation flexibility even on smaller lots. (Only applies to engine specification numbers GM88347-GA11, GM88347-GA12, or higher. Check state and local codes for minimum required distance from a structure.)

#### Powerful Performance

Exclusive Powerboost<sup>™</sup> technology provides excellent starting power. The Kohler 12 kW generator can easily start and run a 5 ton air conditioner with up to 5 kW preload.\*

Enclosure

Bold new Kohler design in steel, dipped in e-coat for extra corrosion protection and painted with a durable powder coat finish

#### Quiet Operation

Kohler home generators provide quiet, neighborhoodfriendly performance.

## **Standard Features**

#### DC2 Controller

- One digital controller manages both the generator set and Model RXT transfer switch functions
- $\circ~$  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 is easy to read, even in direct sunlight or low light.
- OnCue<sup>®</sup> Plus Generator Management System for remote monitoring is included with every generator.

### Kohler Engine Features

- Kohler Series 7000 V-twin engine with efficient OHV design
- Powerful, reliable air-cooled performance
- Simple field conversion between natural gas and LPG fuels while maintaining emission certification

#### • Designed for Easy Installation

- Steel base
- Hinged, locking roof
- Fuel and electrical connections through the enclosure wall eliminate the need for stub-ups through the bottom
- $\circ~$  Accepts natural gas fuel pressure as low as 3.5 inches
- Load connection terminal block allows easy field wiring
- o Designed for outdoor installation only
- Approved for stationary standby applications in locations served by a reliable utility source
- Meets 181 mph wind rating

#### Model RXT Transfer Switch

- 100 amp ATS w/NEMA 1 enclosure with 12-space load center for indoor installation is included
- $\circ~$  See page 4 for additional information
- Certifications
  - Meets emission regulations for U.S. Environmental Protection Agency (EPA) 40 CFR 60 stationary source standards with both LPG and natural gas.
     Note: CARB does not regulate emergency standby generators outputting less than 50 HP. Only the EPA standards apply.
  - o UL 2200 listed (60 Hz model)
  - Accepted by the Massachusetts Board of Registration of Plumbers and Gas Fitters.

## **Generator Ratings**

					Standby Ratings			
					Natural Gas		LPG	
Model	Voltage	Phase	Hz	Alternator	kW/kVA	Amps	kW/kVA	Amps
10RESVL	120/240	1	60	2F3	9/9	37.5	10/10	41.7
12RESVL	120/240	1	60	2F4	11/11	45.8	12/12	50

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 GUIDE-LINES 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 1-Phase		
Manufacturer	Kohler		
Output reconnectable		120/240	
Туре		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- RMS	±1.0%		
One-step load acceptar	100% of Rating		
Peak motor starting kVA:		(35% dip for voltages below)	
240 V, 2F3	(60 Hz)	16.8	
240 V, 2F4 (60 Hz)		20.3	

## **Alternator Features**

- Compliance with NEMA, IEEE, and ANSI standards for • temperature rise
- Self-ventilated and dripproof construction
- · Windings are vacuum-impregnated with 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%.

12RESVL

## **Application Data Engine Electrical**

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Engine Specifications	10RESVL	12RESVL	Engine Electrical System	10RESVL	12RESVL		
Manufacturer	Kohler		Ignition system	Electronic,			
Engine: model, type	KT725			Capacitive	Discharge		
Cylinder arrangement	V-2		Starter motor rated voltage (DC)	12			
Displacement, cm <sup>3</sup> (cu. in.)	725 (4-	4)	Battery (purchased separately):				
Bore and stroke, mm (in.)	83 x 67 (3.3 x 2.6)		Ground	Negative			
Compression ratio	9.0:1		Volts (DC)	12			
Main bearings: quantity, type	2, Parent Material		Battery quantity	1			
Rated RPM			Recommended cold cranking amps:				
60 Hz	3600		(CCA) rating for -18°C (0°F)	500			
Max. engine power at rated rpm, kW (HP)	1		Group size	5	1		
LPG, 60 Hz	16 (21.	4)	Lubrication				
Natural gas, 60 Hz	13.4 (1	8)					
Cylinder head material	Aluminu	um	Lubricating System	10RESVL	12RESVL		
Valve material	Steel/Stel	llite®	Туре	Full Pr			
Piston type and material	Aluminum Alloy		Oil capacity (with filter), L (qt.) *	1.9 (	,		
Crankshaft material	Heat Treated, D	Ductile Iron	Oil filter: quantity, type	1, Car	tridge		
Governor: type	Electror	nic	<ul> <li>* Oil capacity for a new, dry engine.</li> </ul>				
Frequency regulation, no load to full load	Isochron	ous	Fuel Pipe Size				
Frequency regulation, steady state	±1.0%	0	Minimum Gas Pipe Size Recommendat	ion, in. NPT			
Air cleaner type	Dry		10RESVL	12R	ESVL		

## **Exhaust**

Engine

Exhaust System	10RESVL	12RESVL
Exhaust temperature exiting the enclosure at rated kW, dry, °C (°F)	106 (224)	106 (224)

	10RI	ESVL	12RESVL	
Pipe Length, m (ft.)	Natural Gas 179,000 Btu/hr.	<b>LPG</b> 222,500 Btu/hr.	Natural Gas 216,000 Btu/hr.	<b>LPG</b> 257,500 Btu/hr.
8 (25)	3/4	3/4	3/4	3/4
15 (50)	1	3/4	1	1
30 (100)	1	1	1-1/4	1
46 (150)	1 1/4	1	1-1/4	1 1/4
61 (200)	1 1/4	1 1/4	1 1/4	1 1/4

## **Fuel Requirements**

Fuel System	10RESVL	12RESVL		
Fuel types	Natural Gas or LPG			
Fuel supply inlet	1/2 NPT			
Fuel supply pressure, kPa (in. H <sub>2</sub> O):				
Natural gas	.87-2.7	(3.5-11)		
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							
Model	Fuel Type	% Load	Fuel C	onsump	tion, m <sup>3</sup> /hr. (cfh)		
		100	5.1	(179)			
		75	4.1	(145)			
	Natural Gas	50	3.4	(120)			
		25	2.7	(97)			
10RESVL		Exercise	2.1	(75)			
TONLOVE		100	2.5	(89)			
		75	2.0	(69)			
	LPG	50	1.5	(52)			
		25	1.1	(39)			
		Exercise	0.8	(29)			
		100	6.1	(216)			
		75	4.5	(160)			
	Natural Gas	50	3.6	(128)			
	0.0.0	25	2.8	(99)			
12RESVL		Exercise	2.1	(74)			
TZNEOVE		100	2.9	(103)			
		75	2.2	(76)			
	LPG	50	1.6	(57)			
		25	1.2	(42)			
		Exercise	0.8	(30)			
Nominal fu		latural gas: .PG:	37 MJ/n 93 MJ/n	n <sup>3</sup> (1000 n <sup>3</sup> (2500	Btu/ft. <sup>3</sup> ) Btu/ft. <sup>3</sup> )		
LPG conversion factors: $8.58 \text{ ft.}^3 = 1 \text{ lb.}$ $0.535 \text{ m}^3 = 1 \text{ kg}$ $36.39 \text{ ft.}^3 = 1 \text{ gal.}$							

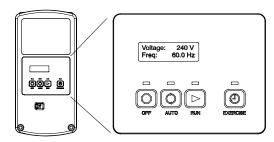
## Sound Data

Model 10RESVL and 12RESVL 8 point logarithmic average sound levels are 67 dB(A) during weekly engine exercise and 71 dB(A) during full-speed generator diagnostics and normal operation. For comparison to competitor ratings, the lowest point sound levels are 64 dB(A) and 69 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.

## **DC2** Controller



The DC2 controller provides integrated control for the generator set, Kohler<sup>®</sup> Model RXT transfer switch, programmable interface module (PIM).

The DC2 controller's 2-line LCD screen provides a clear, easy-to-read display of status messages, even in direct sunlight or low light.

## **DC2 Controller Features**

- OFF, AUTO, RUN, and EXERCISE pushbuttons
- LED indicators for OFF, AUTO, RUN, and EXERCISE modes
- 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
  - $\circ~$  Voltage and frequency
  - Engine temperature
  - Oil pressure
  - Battery voltage
  - Engine runtime hours
  - $\circ \ \ \text{Maintenance reminders}$
  - OnCue<sup>®</sup> Plus status (connected/disconnected)
- 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
- 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<sup>™</sup> or USB Utility connection
- Integral Ethernet connector for Kohler® OnCue® Plus
- Built-in 2.5 amp battery charger
- Remote two-wire start/stop capability for optional connection of Model RDT transfer switches
- Diagnostic messages
  - Displays diagnostic messages for the engine, generator, Model RXT transfer switch, programmable interface module (PIM)
  - $\circ~$  Over 70 diagnostic messages can be displayed
- A laptop computer and Kohler<sup>®</sup> SiteTech<sup>™</sup> software can be used to change system settings or upgrade controller firmware.

## **Generator Set Standard Features**

- ATS: Model RXT automatic transfer switch with indoor enclosure and 12-circuit load center
- Battery cables
- Flexible fuel line
- Critical silencer
- DC2 generator set/ATS controller
- EPA certified fuel system
- Field-connection terminal block
- · Fuel solenoid valve and secondary regulator
- Line circuit breaker: 10RESVL: 50 amps 12RESVL: 60 amps
- Multi-fuel system, LPG/natural gas, field-convertible
- Oil drain extension with shutoff valve
- OnCue<sup>®</sup> Plus Generator Management System
- Rodent-resistant construction
- Sound enclosure with sound-deadening, flame-retardant foam per UL 94, class HF-1
- 5-year limited warranty

## Model RXT Transfer Switch

## Available Accessories, Continued

#### **Controller Accessories**

Programmable Interface Module (PIM) (provides 2 digital inputs and 6 relay outputs)

#### Electrical System

Battery

## Maintenance

Maintenance kit

#### 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])

#### **Miscellaneous Accessories**

<sup>r</sup> Accessories are available through Kohler authorized distributors and dealers.



- 100 amp RXT with 12-space load center and NEMA 1 steel enclosure for indoor installation
- UL listed
- 240 VAC/60 Hz
- Withstand rating 10,000 amps with specified breakers
- Designed for use only with Kohler<sup>®</sup> generator sets equipped with the RDC2 or DC2 controller
- See RXT Specification Sheet for more information

## **Available Accessories**

#### **Concrete Mounting Pads**

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

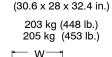
#### **Generator Set Dimensions and Weights**

L

Overall Size, L x W x H:

Shipping Weight: 10RESVL w/ATS

12RESVL w/ATS



777 x 712 x 824 mm



NOTE: Dimensions 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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