

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 accepts rated load in one step.
- A one-year limited warranty covers all systems and components. Two- and five-year extended warranties are also available.
- Alternator features:
 - Kohler's PowerBoost™ voltage regulation system provides instant response to load changes.
 - The low coolant level shutdown prevents overheating.
- Other features:
 - The low coolant level shutdown prevents overheating.
 - Integral vibration isolation eliminates the need for under-unit vibration spring isolators.
 - An electronic, isochronous governor delivers precise frequency regulation.
 - The gas fuel system includes fuel mixer, secondary gas regulator, gas solenoid valve, and flexible fuel line between the engine and the skid-mounted fuel system components.

Generator Set Ratings

Model Series	Hz	Voltage	Phase	Standby Amps LP Gas	Alternator Model	Standby kW/kVA	
						Natural Gas	LP Gas
18RY	60	120/240	1	75	4H7F	16/16	18/18
	50	110/220	1	68	4H7F	13/13	15/15
18RZ	60	120/240	1	75	4J7F	16/16	18/18
	60	120/208	3	64	4J7F	16/20	18/23
	60	120/240	3	55	4J7F	16/20	18/23
	60	127/220	3	60	4J7F	16/20	18/23
	60	139/240	3	55	4J7F	16/20	18/23
	60	220/380	3	35	4J7F	16/20	18/23
	60	277/480	3	28	4J7F	16/20	18/23
	50	110/220	1	64	4J7F	13/13	14/14
	50	110/190	3	57	4J7F	13/16	15/19
	50	110/220	3	49	4J7F	13/16	15/19
	50	120/208	3	52	4J7F	13/16	15/19
50	220/380	3	29	4J7F	13/16	15/19	
50	240/416	3	26	4J7F	13/16	15/19	

RATINGS: Standby ratings are continuous for the duration of any power outage. No overload capacity is specified at this rating. All single-phase units are rated at 1.0 power factor. All 3-phase units are rated at 0.8 power factor. Availability is subject to change without notice. Kohler Co. reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local Kohler Co. generator set distributor for availability. GENERAL GUIDELINES FOR DERATION: ALTITUDE: Derate 4% per 1000 ft. (305 m) elevation above 500 ft. (153 m). TEMPERATURE: Derate 1% per 10°F (5.5°C) temperature increase above 85°F (29°C).

Alternator Specifications

Specifications	PowerBoost™	Alternator
	1-Phase 4H7F (RY)	3-Phase 4J7F (RZ)
Manufacturer	Kohler	
Output reconnectable	120/240 60 Hz and 110/220 50 Hz only	Broadrange
Type	Rotating Field	
Leads, quantity	4	12
Voltage regulator	Solid State	
Insulation:	NEMA MG1-1.66	
Material	Class H	
Temperature rise	Class F	
Bearing: quantity, type	1, Sealed	
Coupling	Flexible Disc	
Amortisseur windings	Full	
Voltage regulation, no-load to full-load	±2%	
One-step load acceptance per NFPA 110	100% of Rating	
Peak motor starting kVA:	(35% dip for 480 V, 60 Hz and 380 V, 50 Hz)	
	60 Hz	42 62
	50 Hz	29 45

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- 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.
- PowerBoost™ voltage regulator with ±2% no load to full load regulation.
- A rotating-field alternator with static exciter on single-phase models and a brushless alternator with rotating brushless exciter on three-phase models for excellent load response.

Application Data

Engine

Engine Specifications	60 Hz	50 Hz
Manufacturer	Ford	
Engine: model, type	LRG-425, 4-Cycle, Natural Aspiration	
Cylinder arrangement	4 Inline	
Displacement, L (cu. in.)	2.51 (153)	
Bore and stroke, mm (in.)	96.5 x 86.0 (3.80 x 3.40)	
Compression ratio	9.0:1	
Piston speed, m/min. (ft/min.)	311 (1020)	259 (850)
Main bearings: quantity, type	5, Replaceable Inserts	
Rated rpm	1800	1500
Max. power at rated rpm, kW (HP)	31 (41)	23 (31)
Cylinder head material	Iron Alloy	
Piston type and material	Aluminum Alloy	
Crankshaft material	Nodular Cast Iron	
Valves material	Forged Steel	
Governor, type	Electronic	
Frequency regulation, no-load to full-load	Isochronous	
Frequency regulation, steady state	±0.5%	
Air cleaner type, all models	Dry	

Exhaust

Exhaust System	60 Hz	50 Hz
Exhaust flow at rated kW, m ³ /min. (cfm)	5.0 (180)	4.2 (150)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	650 (1200)	
Maximum allowable back pressure, kPa (in. Hg)	6.7 (2.0)	
Exhaust outlet size at hookup, mm (in.)	38.5 (1.5)	

Engine Electrical

Engine Electrical System	60 Hz	50 Hz
Ignition system	Electronic, Distributorless	
Battery charging system:		
Ground (negative/positive)	Negative	
Volts (DC)	12	
Ampere rating	51	
Starter motor rated voltage (DC)	12	
Recommended battery cold cranking amps (CCA) rating for 0°F (-18°C)	630	
Batteries, quantity	1	
Battery voltage (DC)	12	
Rolling current at 0°C (32°F)	—	

Fuel

Fuel System	60 Hz	50 Hz
Fuel type	LP Gas or Natural Gas	
Fuel supply inlet	3/4-14 NPT	
Fuel supply pressure, in. H ₂ O (oz./in. ²)	7-11 (4-6)	

Lubrication

Lubricating System	60 Hz	50 Hz
Type	Full Pressure	
Oil pan capacity, L (qt.)	3.8 (4.0)	
Oil pan capacity with filter, L (qt.)	4.7 (5.0)	
Oil filter: quantity, type	1, Cartridge	
Oil drain extension with valve	Standard	

Application Data

Cooling

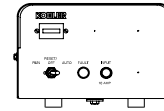
Standard Radiator	60 Hz	50 Hz
Ambient temperature, °C (°F)	49 (120)	
Engine jacket water capacity, L (gal.)	3.8 (1.0)	
Engine jacket water flow, Lpm (gpm)	60.5 (16)	49.2 (13)
Radiator system capacity, including engine, L (gal.)	16.3 (4.3)	
Heat rejected to cooling water at rated kW, wet exhaust, kW (Btu/min.)	27 (1540)	24 (1400)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	436 (17.2)	
Fan, kW (HP)	1.0 (1.3)	0.6 (0.8)
Max. restriction of cooling air, intake and discharge side of rad., kPa (in. H ₂ O)	0.125 (0.5)	

Operation Requirements

Cooling Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m ³ /min (cfm)	102 (3600)	91 (3200)
Combustion air, m ³ /min. (cfm)	1.6 (56)	1.3 (47)
Total air Inlet Requirement, m ³ /min. (cfm)	69 (2430)	57 (2024)
Heat rejected to ambient air:		
Engine, kW (Btu/min.)	7.73 (440)	6.50 (370)
Alternator, kW (Btu/min.)	3.34 (190)	3.16 (180)

Fuel Consumption	60 Hz	50 Hz
Natural Gas, cfm (m³/hr.) at % load		
100%	7.4 (260)	6.2 (220)
75%	5.9 (210)	5.1 (180)
50%	4.8 (170)	4.2 (150)
25%	3.7 (130)	2.8 (100)
LP Gas, cfm (m³/hr.) at % load		
100%	3.1 (110)	2.5 (90)
75%	2.5 (90)	2.0 (70)
50%	2.0 (70)	1.4 (50)
25%	1.4 (50)	1.1 (40)

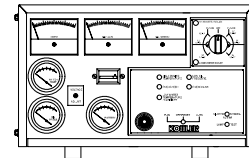
Controllers



Standard Controller Features

- Type: relay
- Power source with fuse protection: 12 volt DC
- Cyclic cranking
- Meters:
 - Running time hour meter
- Switches and Controls:
 - Master control switch: run/off-reset/auto (engine start)
 - Local/remote two-wire start control
- Common Fault Lamp:
 - High engine temperature (red)
 - Low coolant level (red)
 - Low oil pressure (red)
 - Overcrank (red)
 - Overspeed (red)

Refer to G6-31 for additional controller features and accessories.



Optional Controller Features

- Type: 5-light microprocessor (NFPA 110, level 2)
- Power source with fuse protection: 12 volt DC
- Cyclic cranking
- Engine cooldown time delay
- Panel lamps (2)
- Analog Meters:
 - AC meters, 64 mm (2.5 in.), volts, amperes, and frequency
 - DC meters, 51 mm (2 in.), DC volts, engine water temperature, and lube oil pressure
 - Running time hour meter
- Switches and Controls:
 - Master control switch: run/off-reset/auto (engine start)
 - Local/remote two-wire start control
 - Meter phase selector switch, 7-position
 - Lamp test switch
 - Alarm horn and silencing switch
 - Front-mounted voltage adjusting rheostat
- Fault and Condition Lamps:
 - High engine temperature lamp (red)
 - Low oil pressure lamp (red)
 - Low water temperature/auxiliary fault lamp (red)
 - Overcrank lamp (red)
 - Overspeed lamp (red)

Refer to G6-31 for additional controller features and accessories.

Standard Features and Accessories

Enclosed Unit

- Exhaust Silencer, Critical
- Silencer Mounting Kit inside Housing
- Tail Pipe and Rain Cap Kit
- Weather Housing

Open Unit

- Exhaust Silencer, Critical (loose)
- Exhaust Silencer, Critical (engine mounted)
- Flexible Exhaust Connector, Stainless Steel

Cooling System

- Block Heater
- Radiator Duct Flange

Fuel System

- Automatic Changeover (Natural Gas to LPG Vapor)
- Flexible Fuel Line
(required when the generator set skid is spring mounted)
- Fuel System Kit (LP Gas or Natural Gas)
- Gas Strainer
- LP Gas Liquid Withdrawal Fuel System

Electrical System

- Battery
- Battery Charger, 10 Amp NFPA, Float/Equalize
- Battery Charger, 6 Amp, Float/Equalize
- Battery Heater

Engine and Alternator

- CSA Certification
- Line Circuit Breaker
- NFPA 110 Literature
- Rodent Guards
- Skid End Caps

Maintenance

- General Maintenance Literature Kit
- Overhaul Literature Kit

Controller (Relay Controller)

- Engine Gauge Package
- Run Relay Kit

Controller (Microprocessor Controller)

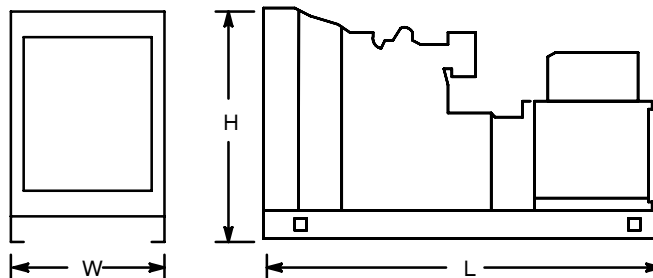
- Chime Alarm Kit
- Common Failure Relay Kit
- Customer Connection Kit
- Decision Monitor™ Remote Annunciator Panel
- Dry Contact Kit (Isolated Alarm)
- FASTCHECK® Diagnostic Fault Detector
- Overvoltage Protection Shutdown Kit
- Prealarm Sender Kit
- Remote Audiovisual Alarm Panel
- Remote Emergency Stop Kit
- Run Relay Kit

Miscellaneous Accessories

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- _____
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- _____
- _____
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- _____
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- _____
- _____
- _____
- _____

Dimensions and Weights

Overall Size, L x W x H, mm (in.): 1671 x 737 x 1114
 (65.80 x 29.00 x 43.86)
 Weight (radiator model), wet, kg (lb.): 18RY: 417 (920)
 18RZ: 445 (980)



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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