

Alternator Specifications

Specifications	Alternator
Manufacturer	Kohler
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Rare-Earth Permanent Magnet
Leads: quantity, type	
4RX	12, Reconnectable
4TX	4, 120/240 V
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
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	±0.5%
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby Current
Peak motor starting kVA:	(35% dip for voltages below)
480 V	4R9X (12 lead) 385 (60 Hz)
240 V	4T9X (4 lead) 237 (60 Hz)

- The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
- Brushless, rotating-field alternator.
- 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 drip-proof construction.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.
- Windings are vacuum-impregnated with epoxy varnish for dependability and long life.
- Total harmonic distortion (THD) from no load to full load with a linear load is less than 3.2%.

Application Data

Engine

Engine Specifications	60 Hz
Manufacturer	Kohler
Engine: model, type	KG6208TSD 6.2 L Turbocharged, Aftercooled
	KG6208TSC* 6.2 L Turbocharged, Aftercooled
Cylinder arrangement	V-8
Displacement, L (cu. in.)	6.2 (378)
Bore and stroke, mm (in.)	101.6 x 95.25 (4.00 x 3.75)
Compression ratio	9.8:1
Rated rpm	1800
Max. power at rated rpm, kW (HP)	
Natural Gas	93.6 (126)
LPG	94.6 (127)
Cylinder head material	Cast Aluminum
Piston type and material	Cast Aluminum
Crankshaft material	Cast Iron
Valve (exhaust) material	Forged Steel
Governor type	Electronic
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state	±1.0%
Frequency	Fixed
Air cleaner type, all models	Dry

* KG6208TSC includes catalyst (60 Hz only).

Exhaust

Exhaust System	60 Hz
Exhaust manifold type	Dry
Exhaust flow at rated kW, m ³ /min. (cfm)	18 (636)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	715 (1319)
Maximum allowable back pressure, kPa (in. Hg)	12.5 (3.7)
Exhaust outlet size at engine hookup, mm (in.)	88.9 (3.5)

Engine Electrical

Engine Electrical System	60 Hz
Ignition system	Coil Pack
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	12
Ampere rating	130
Starter motor rated voltage (DC)	12
Battery, recommended cold cranking amps (CCA):	
Qty., rating for -18°C (0°F)	One, 650
Battery voltage (DC)	12

Fuel

Fuel System	60 Hz	
Fuel type	Natural Gas, LP Gas, or Dual Fuel	
Fuel supply line inlet	1.25 NPT	
Natural gas and LPG vapor fuel supply pressure, kPa (in. H ₂ 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 ₄ and higher, % by volume	0.3 max.	2.5 max.
Sulfur, ppm mass	25 max.	
Lower heating value, MJ/m ³ (Btu/ft ³), min.	33.2 (890)	84.2 (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	60 Hz
Type	Full Pressure
Oil pan capacity, L (qt.)	5.7 (6.0)
Oil pan capacity with filter and oil cooler, L (qt.)	8.0 (8.5)
Oil filter: quantity, type §	1, Cartridge
§ Kohler recommends the use of Kohler Genuine oil and filters.	

Cooling

Radiator System	60 Hz
Ambient temperature, °C (°F)	45 (113)
Engine jacket water capacity, L (gal.)	7.3 (1.93)
Radiator system capacity, including engine, L (gal.)	22.7 (6.0)
Engine jacket water flow, Lpm (gpm)	112.5 (29.7)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	66.5 (3785)
Heat rejected to charge air cooler at rated kW, dry exhaust, kW (Btu/min.)	9 (512)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	711 (28)
Fan, kWm (HP)	7.0 (9.4)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.12 (0.5)

Operation Requirements

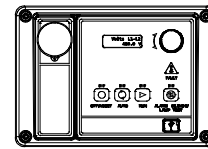
Air Requirements	60 Hz
Radiator-cooled cooling air, m ³ /min. (scfm) †	230 (8122)
Combustion air, m ³ /min. (cfm)	5.3 (187)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	24 (1366)
Alternator, kW (Btu/min.)	8.8 (500)
† Air density = 1.20 kg/m ³ (0.075 lbm/ft ³)	

Fuel Consumption ‡	60 Hz
Natural Gas, m³/hr. (cfh) at % load	Standby Ratings
100%	34.0 (1202)
75%	29.2 (1032)
50%	22.7 (803)
25%	14.9 (527)
LP Gas, m³/hr. (cfh) at % load	Standby Ratings
100%	14.7 (521)
75%	11.7 (413)
50%	7.7 (272)
25%	5.2 (183)
‡ Nominal fuel rating: Natural gas, 37 MJ/m ³ (1000 Btu/ft. ³) LP vapor, 93 MJ/m ³ (2500 Btu/ft. ³)	

LP vapor conversion factors:

- 8.58 ft.³ = 1 lb.
- 0.535 m³ = 1 kg.
- 36.39 ft.³ = 1 gal.

Controllers



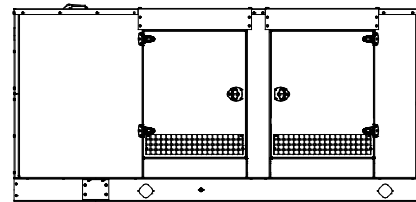
APM402 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- Digital display and menu control provide easy local data access
 - Measurements are selectable in metric or English units
 - Remote communication thru a PC via network or serial configuration
 - Controller supports Modbus® protocol
 - Integrated hybrid voltage regulator with ±0.5% regulation
 - Built-in alternator thermal overload protection
 - NFPA 110 Level 2 capability
- Refer to G6-161 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric.

Sound Enclosure



- Model KG80R sound levels are 67 dB(A) during normal operation*.
- All sound levels are measured at a distance of 23 ft. (7 m) from the generator set.
- Sound attenuating enclosure uses acoustic insulation that meets UL 94 HF1 flammability classification and repels moisture absorption.
- Vertical air inlet and outlet discharge with 90 degree bends to redirect air and reduce noise.
- Internal-mounted critical silencer and flexible exhaust connector.
- Skid-mounted, steel (standard) or aluminum (optional) construction with hinged doors.
- Fade-, scratch-, and corrosion-resistant Kohler® Cashmere Power Armor™ textured e-coat paint.
- Lockable, flush-mounted door latches.
- Certified to withstand 299 kph (186 mph) wind load rating (aluminum enclosures only).

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

Standard Features

- Air Cleaner Restriction Indicator
- Alternator Protection
- Battery Rack and Cables
- Battery Charger, 12 V, 6 A
- Block Heater, 1500 W
- cUL/UL 2200 Listed, CSA Certified
- Electronic, Isochronous Governor
- Engine Fluids Added(Oil & Coolant)
- Flexible Fuel Line (for fuel supply connection)
- Gas Fuel System (includes fuel mixer, electronic secondary gas regulator, gas solenoid valve, and flexible fuel line between the engine and the skid-mounted fuel system components)
- Integral Vibration Isolation
- Line Circuit Breaker, Thermal Magnetic, 80% Rated, 3 Pole
- Local Emergency Stop Switch
- Oil Drain Extension
- Operation and Installation Literature
- Rodent Guards
- Secondary Gas Solenoid Valve
- Steel Sound Enclosure
- 5 year/2000 Hour Basic Warranty

Electrical System

- Alternator Strip Heater
- Battery
- Battery Heater

Literature

- General Maintenance
- Overhaul
- Production

Warranty

- 5-Year Premium Limited Warranty

Available Options

Approvals and Listings

- Exhaust catalyst* QS Factory installed only

Enclosure

- Aluminum Sound Enclosure

Fuel System

- Dual Fuel NG/LPG (automatic changeover)*QS factory installed only.

Controller

- Remote Emergency Stop
- Run Relay
- Remote Annunciator panel
- Two Input/Five Output Module

Automatic Transfer Switches and Accessories

- For larger than 400 A or 3 phase, KEP Service Entrance Rated Automatic Transfer Switch option is available
- For larger than 400 A or 3 phase, KSS Standard Automatic Transfer Switch option is available
- Load shed kit for RDT
- Model RDT Automatic Transfer switch
- Power relay modules (use up to 4 relay modules for each load management device)

Dimensions and Weights

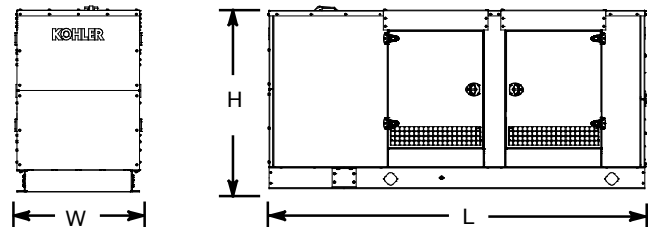
Overall Size, L x W x H, mm (in.) :

3525 x 1154 x 1665 (138.8 x 45.4 x 65.5)

Weight, wet, kg (lb.):

With steel sound enclosure 1427 (3146)

With aluminum sound enclosure 1337 (2948)



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

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