KOHLER

Model: 150REOZJF

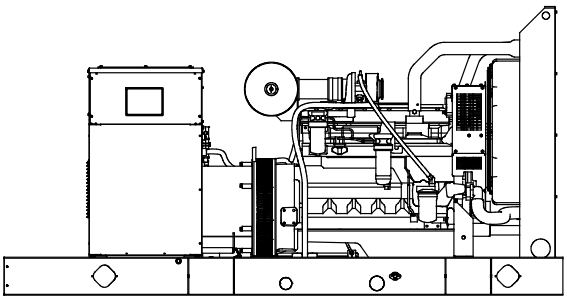
208- 600 V **Diesel**

ISO 9001 KOHLER NATIONALLY REGISTERED

Tier 3 EPA-Certified for Stationary Emergency Applications

Ratings Range

		60 Hz
Standby:	**kW**	106- 154
	kVA	106- 193
Prime:	**kW**	99- 140
	kVA	99- 175



Generator Set Ratings

				130°C Rise Standby Rating		105°C Rise Prime Rating	
Alternator	**Voltage**	**Ph**	**Hz**	**kW/kVA**	**Amps**	**kW/kVA**	**Amps**
4R13X	120/208	3	60	137/171	475	128/160	444
	127/220	3	60	143/179	469	132/165	433
	120/240	3	60	137/171	412	128/160	385
	120/240	1	60	107/107	446	99/99	413
	139/240	3	60	150/188	451	136/170	409
	220/380	3	60	124/155	235	116/145	220
	277/480	3	60	150/188	226	136/170	204
4S12X	120/208	3	60	154/193	534	140/175	486
	127/220	3	60	154/193	505	140/175	459
	120/240	3	60	154/193	463	140/175	421
	120/240	1	60	106/106	442	105/105	438
	139/240	3	60	154/193	463	140/175	421
	220/380	3	60	140/175	266	131/164	249
	277/480	3	60	154/193	232	140/175	210
	347/600	3	60	154/193	185	140/175	168
4S13X	120/208	3	60	154/193	534	140/175	486
	127/220	3	60	154/193	505	140/175	459
	120/240	3	60	154/193	463	140/175	421
	120/240	1	60	113/113	471	113/113	471
	139/240	3	60	154/193	463	140/175	421
	220/380	3	60	154/193	292	140/175	266
	277/480	3	60	154/193	232	140/175	210
	347/600	3	60	154/193	185	140/175	168
4T13X	120/240	1	60	144/144	600	133/133	554

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 offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- A one-year limited warranty covers all generator set systems and components. Two- and five-year extended limited warranties are also available.
- Alternator features:
  - The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
  - The brushless, rotating-field alternator has broadrange reconnectability.
- Other features:
  - Kohler designed controllers for one-source system integration and remote communication. See Controllers on page 3.
  - The low coolant level shutdown prevents overheating (standard on radiator models only).
  - Integral vibration isolation eliminates the need for under-unit vibration spring isolators.
  - Mount up to two circuit breakers to allow circuit protection of selected priority loads.

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor. *Standby Ratings:* The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. *Prime Power Ratings:* At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. For limited running time and continuous ratings, consult the factory. Obtain technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Alternator Specifications

Specifications	Alternator
Manufacturer	Kohler
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Rare-Earth, Permanent-Magnet
Leads: quantity, type	
4RX, 4SX	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	Controller Dependent
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby Current

- 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.
- Windings are vacuum-impregnated with epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.

Specifications		Alternator
Peak motor starting kVA:		(35% dip for voltages below)
480 V	4R13X (12 lead)	540
480 V	4S12X (12 lead)	480
480 V	4S13X (12 lead)	570
240 V	4T13X (4 lead)	440

Application Data

Engine

Engine Specifications	
Manufacturer	John Deere
Engine model	6068HF285
Engine type	4-Cycle, Turbocharged, Charge Air-Cooled
Cylinder arrangement	6 Inline
Displacement, L (cu. in.)	6.8 (415)
Bore and stroke, mm (in.)	106 x 127 (4.19 x 5.00)
Compression ratio	17.0:1
Piston speed, m/min. (ft./min.)	457 (1500)
Main bearings: quantity, type	7, Replaceable Insert
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	177 (237)
Cylinder head material	Cast Iron
Crankshaft material	Forged Steel
Valve material:	
Intake	Chromium-Silicon Steel
Exhaust	Stainless Steel
Governor: type, make/model	JDEC Electronic L16 Denso HP3
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state	±0.25%
Frequency	Fixed
Air cleaner type, all models	Dry

Exhaust

Exhaust System	
Exhaust manifold type	Dry
Exhaust flow at rated kW, m^3/min. (cfm)	33.9 (1197)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	510 (950)
Maximum allowable back pressure, kPa (in. Hg)	7.5 (2.2)
Exhaust outlet size at engine hookup, mm (in.)	98 (3.86)

Engine Electrical

Engine Electrical System (12/24 Volt*)	
Battery charging alternator:	12 Volt/24 Volt
Ground (negative/positive)	Negative
Volts (DC)	12/24
Ampere rating	65/45
Starter motor rated voltage (DC)	12/24
Battery, recommended cold cranking amps (CCA):	12 Volt/24 Volt
Quantity, CCA rating each	One, 640/Two, 570
Battery voltage (DC)	12

*12-volt or 24-volt engine electrical systems are available.

Fuel

Fuel System	
Fuel supply line, min. ID, mm (in.)	11.0 (0.44)
Fuel return line, min. ID, mm (in.)	6.0 (0.25)
Max. lift, fuel pump: type, m (ft.)	Electronic, 1.8 (6.0)
Max. fuel flow, Lph (gph)	96.9 (25.6)
Max. return line restriction, kPa (in. Hg)	20 (5.9)
Fuel prime pump	Manual
Fuel filter	
Primary	30 Microns
Secondary	2 Microns @ 98% Efficiency
Water Separator	Yes
Recommended fuel	#2 Diesel

Lubrication

Lubricating System	
Type	Full Pressure
Oil pan capacity, L (qt.) §	27.0 (28.5)
Oil pan capacity with filter, L (qt.) §	27.9 (29.5)
Oil filter: quantity, type §	1, Cartridge
Oil cooler	Water-Cooled

§ Kohler recommends the use of Kohler Genuine oil and filters.

Application Data

Cooling

Radiator System	
Ambient temperature, °C (°F) *	50 (122)
Engine jacket water capacity, L (gal.)	11.3 (3.0)
Radiator system capacity, including engine, L (gal.)	25.7 (6.8)
Engine jacket water flow, Lpm (gpm)	174 (46)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	76.3 (4340)
Heat rejected to air charge cooler at rated kW, dry exhaust, kW (Btu/min.)	31.8 (1810)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	660 (26)
Fan, kWm (HP)	7.7 (10.3)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H_2O)	0.125 (0.5)

* Enclosure with enclosed silencer reduces ambient temperature capability by 5°C (9°F).
Snow package enclosure with enclosed silencer reduces ambient temperature capability by 10°C (18°F).

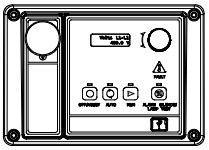
Operation Requirements

Air Requirements	
Radiator-cooled cooling air, m^3/min. (scfm)‡	226.5 (8000)
Combustion air, m^3/min. (cfm)	13.6 (480)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	35.9 (2040)
Alternator, kW (Btu/min.)	12.3 (700)

‡ Air density = 1.20 kg/m^3 (0.075 lbm/ft^3)

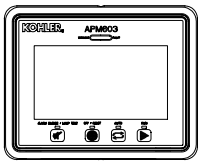
Fuel Consumption		
Diesel, Lph (gph) at % load	**Standby Rating**	
100%	44.3	(11.7)
75%	35.1	(9.3)
50%	26.3	(6.9)
25%	16.2	(4.3)
Diesel, Lph (gph) at % load	**Prime Rating**	
100%	40.6	(10.7)
75%	32.3	(8.5)
50%	24.0	(6.3)
25%	14.4	(3.8)

Controllers



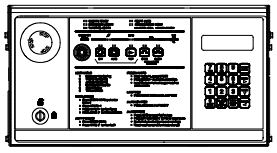
APM402 Controller
Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.
- Digital display and menu control provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or serial configuration
- Controller supports Modbus® protocol
- Integrated hybrid voltage regulator with ±0.5% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-161 for additional controller features and accessories.



APM603 Controller
Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.
- Graphic display with touch screen and menu control provides easy local data access
- Measurements are selectable in metric or English units
- Paralleling capability with first-on logic, synchronizer, kW and kVAR load sharing, and protective relays
  Note: Parallel with other APM603 controllers only
- Generator management to turn paralleled generators off and on as required by load demand
- Load management to connect and disconnect loads as required
- Controller supports Modbus® RTU, Modbus® TCP, SNMP and BACNet®
- Integrated voltage regulator with ±0.25% regulation
- Built-in alternator thermal overload protection
- UL-listed overcurrent protective device
- NFPA 110 Level 1 capability

Refer to G6-162 for additional controller features and accessories.



Decision-Maker® 6000 Paralleling Controller
Provides advanced control, system monitoring, and system diagnostics with remote monitoring capabilities for paralleling multiple generator sets.
- Paralleling capability with first-on logic, synchronizer, kW and kVAR load sharing, and protective relays
  Note: Parallel with other Decision-Maker® 6000 controllers only
- Digital display and keypad provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or modem configuration
- Controller supports Modbus® protocol
- Integrated voltage regulator with ±0.25% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-107 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric.

KOHLER

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Phone 920-457-4441, Fax 920-459-1646
For the nearest sales and service outlet in the US and Canada, phone 1-800-544-2444
KOHLERPower.com

Standard Features

- Alternator Protection
- Battery Rack and Cables
- Customer Connection (standard with Decision-Maker® 6000 controller only)
- Local Emergency Stop Switch
- Oil Drain Extension
- Operation and Installation Literature

Available Options

Circuit Breakers

Type

- ❑ Magnetic Trip
- ❑ Thermal Magnetic Trip
- ❑ Electronic Trip (LI)
- ❑ Electronic Trip with Short Time (LSI)
- ❑ Electronic Trip with Ground Fault (LSIG)

Rating

- ❑ 80%
- ❑ 100%

Operation

- ❑ Manual
- ❑ Electrically Operated (for paralleling)

Circuit Breaker Mounting

- ❑ Generator Mounted
- ❑ Remote Mounted
- ❑ Bus Bar (for remote mounted breakers)

Enclosures for Remote Mounted Circuit Breakers

- ❑ NEMA 1
- ❑ NEMA 3R

Approvals and Listings

- ❑ California OSHPD Approval
- ❑ CSA Certified
- ❑ IBC Seismic Certification
- ❑ UL 2200 Listing
- ❑ Hurricane Rated Enclosure

Enclosed Unit

- ❑ Snow Enclosure (sound enclosure with enclosed critical silencer, intake hood, and electrical package)
- ❑ Sound Enclosure (with enclosed critical silencer)
- ❑ Weather Enclosure (with enclosed critical silencer)

Open Unit

- ❑ Exhaust Silencer, Critical (kit: PA-354809)
- ❑ Flexible Exhaust Connector, Stainless Steel

Fuel System

- ❑ Flexible Fuel Lines
- ❑ Fuel Pressure Gauge
- ❑ Subbase Fuel Tanks

Controller

- ❑ Common Failure Relay (Decision-Maker® 6000 and APM603 controllers only)
- ❑ Decision-Maker® Paralleling System (DPS) (Decision-Maker® 6000 controller only)
- ❑ Dry Contact (isolated alarm) (Decision-Maker® 6000 controller only)
- ❑ Two Input/Five Output Module (APM402 controller only)
- ❑ Four Input/Fifteen Output Module (APM603 controller only)
- ❑ Lockable Emergency Stop Switch
- ❑ Remote Emergency Stop Switch
- ❑ Remote Serial Annunciator Panel
- ❑ Run Relay (standard with APM603, optional with others)
- ❑ Manual Key Switch (APM603 controller only)
- ❑ Manual Speed Adjust (APM402 controller only)

Cooling System

- ❑ Block Heater, 1800 W, 90- 120 V, 1 Ph
- ❑ Block Heater, 2000 W, 190- 240 V, 1 Ph Required for ambient temperature below 0°C (32°F)
- ❑ Radiator Duct Flange

Electrical System

- ❑ Generator Heater
- ❑ Battery
- ❑ Battery Charger, Equalize/Float Type
- ❑ Battery Heater

Miscellaneous

- ❑ Air Cleaner, Heavy Duty
- ❑ Air Cleaner Restriction Indicator
- ❑ Certified Test Report
- ❑ Crankcase Emissions Canister
- ❑ Engine Fluids Added
- ❑ Rated Power Factor Testing
- ❑ Rodent Guards

Literature

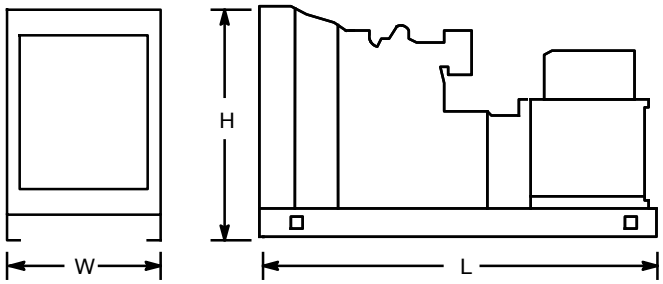
- ❑ General Maintenance
- ❑ NFPA 110
- ❑ Overhaul
- ❑ Production

Warranty

- ❑ 2-Year Basic Limited Warranty
- ❑ 5-Year Basic Limited Warranty
- ❑ 5-Year Comprehensive Limited Warranty

Dimensions and Weights

Overall Size, L x W x H, mm (in.):	2950 x 1120 x 1527 (116.1 x 44.1 x 60.1)
Weight (radiator model), wet, kg (lb.):	1295- 1402 (2855- 3090)



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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