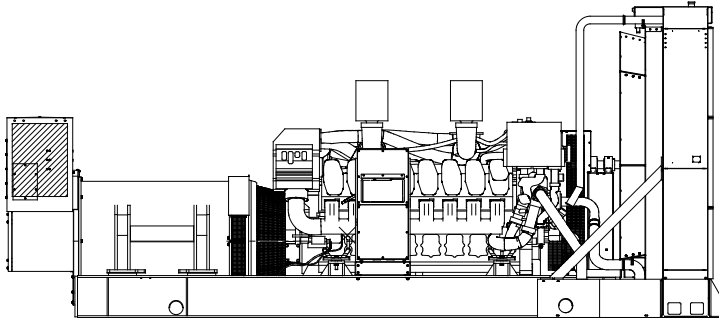




Tier 2 EPA-Certified for Stationary Emergency Applications

Ratings Range

| | | |
|--------------------|--|--------------|
| | | 60 Hz |
| Standby: kW | | 2330-2500 |
| kVA | | 2913-3125 |



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 standard one-year limited warranty covers all generator set systems and components. Two-, five-, and ten-year extended limited warranties are also available.
- Alternator features:
 - The pilot-excited, permanent magnet (PM) alternator provides superior short-circuit capability.
 - The brushless, rotating-field alternator has broadrange reconnectability.
- Other features:
 - Kohler designed controllers for guaranteed system integration and remote communication. See Controllers on page 3.
 - The low coolant level shutdown prevents overheating (standard on radiator models only).
 - Electronic engine controls manage the engine.

Generator Set Ratings

| Alternator | Voltage | Ph | Hz | 130°C Rise Standby Rating | |
|------------|------------|----|----|---------------------------|------|
| | | | | kW/kVA | Amps |
| 10M1102 | 277/480 | 3 | 60 | 2500/3125 | 3759 |
| 10M1106 | 277/480 | 3 | 60 | 2500/3125 | 3759 |
| 10M1122 | 347/600 | 3 | 60 | 2500/3125 | 3007 |
| 10M1124 | 347/600 | 3 | 60 | 2500/3125 | 3007 |
| 10M1180 | 2400/4160 | 3 | 60 | 2500/3125 | 434 |
| 10M1182 | 2400/4160 | 3 | 60 | 2500/3125 | 434 |
| | 7200/12470 | 3 | 60 | 2500/3125 | 145 |
| 10M1248 | 7620/13200 | 3 | 60 | 2500/3125 | 137 |
| | 7970/13800 | 3 | 60 | 2330/2913 | 122 |
| | 7200/12470 | 3 | 60 | 2500/3125 | 145 |
| 10M1252 | 7620/13200 | 3 | 60 | 2500/3125 | 137 |
| | 7970/13800 | 3 | 60 | 2500/3125 | 131 |

RATINGS: All three-phase units are rated at 0.8 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 |
|--|------------------------------------|
| Type | 4-Pole, Rotating-Field |
| Exciter type | Brushless, Permanent-Magnet |
| Voltage regulator | Solid State, Volts/Hz |
| Insulation: | NEMA MG1 |
| Material | Class H, Synthetic, Nonhygroscopic |
| Temperature rise | 130°C Standby |
| Bearing: quantity, type | 2, Sealed |
| Coupling | Flexible Coupling |
| Amortisseur windings | Full |
| Rotor balancing | 125% |
| Voltage regulation, no-load to full-load (with <0.5% drift due to temp. variation) | 3-Phase Sensing, ±0.25% |
| One-step load acceptance | 100% of Rating |
| Unbalanced load capability | 100% of Rated Standby Current |
| Peak motor starting kVA @ 0.3 PF: | (35% dip for voltages below) |
| 480V 10M1102 (4 bus bar) | 5650 |
| 480V 10M1106 (4 bus bar) | 6750 |
| 600V 10M1122 (4 bus bar) | 6300 |
| 600V 10M1124 (4 bus bar) | 7100 |
| 4160V 10M1180 (6 lead) | 7200 |
| 4160V 10M1182 (6 lead) | 6400 |

- 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.
- Superior voltage waveform from two-thirds pitch windings and skewed stator.
- Digital solid-state, volts-per-hertz voltage regulator with ±0.25% no-load to full-load regulation.
- Brushless alternator with brushless pilot exciter for excellent load response.

| | |
|-------------------------------------|------------------------------|
| Peak motor starting kVA @ 0.3 PF: | (35% dip for voltages below) |
| 12470V 10M1248 (6 lead w/4 bus bar) | 5250 |
| 13200V 10M1248 (6 lead w/4 bus bar) | 5800 |
| 13800V 10M1248 (6 lead w/4 bus bar) | 6250 |
| 12470V 10M1252 (6 lead w/4 bus bar) | 5500 |
| 13200V 10M1252 (6 lead w/4 bus bar) | 6000 |
| 13800V 10M1252 (6 lead w/4 bus bar) | 6500 |

Application Data

Engine

| Engine Specifications | |
|--|------------------------------------|
| Manufacturer | Detroit Diesel/MTU |
| Engine: model | 16V4000G83L |
| Engine: type | 4-Cycle, Turbocharged, Intercooled |
| Cylinder arrangement | 16V |
| Displacement, L (cu. in.) | 76.3 (4656) |
| Bore and stroke, mm (in.) | 170 x 210 (6.7 x 8.3) |
| Compression ratio | 16.4:1 |
| Piston speed, m/min. (ft./min.) | 756 (2480) |
| Rated rpm | 1800 |
| Max. power at rated rpm, kWm (BHP) | 2740 (3675) |
| Cylinder head material | Cast Iron |
| Crankshaft material | Forged Steel |
| Valve (exhaust) material | High Alloy Steel |
| Governor: type, make/model | ADEC Electronic Control |
| Frequency regulation, no-load to full-load | Isochronous |
| Frequency regulation, steady state | ±0.25% |
| Frequency | Fixed |
| Air cleaner type, all models | Dry |

Engine Electrical

| Engine Electrical System | |
|--|------------|
| Battery charging alternator: | |
| Ground (negative/positive) | Negative |
| Volts (DC) | 24 |
| Ampere rating | 70 |
| Starter motor rated voltage (DC) | Dual, 24 |
| Battery, recommended cold cranking amps (CCA): | |
| Quantity, CCA rating each | Four, 1150 |
| Battery voltage (DC) | 12 |

Fuel

| Fuel System | |
|---|----------------|
| Fuel supply line, min. ID, mm (in.) | 20 (0.79) |
| Fuel return line, min. ID, mm (in.) | 20 (0.79) |
| Max. fuel flow, Lph (gph) | 1200 (317) |
| Min./max. fuel pressure at engine supply connection, kPa (in. Hg) | -10/50 (-3/15) |
| Max. return line restriction, kPa (in. Hg) | 50 (14.7) |
| Fuel filter | 1, Secondary |
| Recommended fuel | #2 Diesel |

Exhaust

| Exhaust System | |
|---|----------------|
| Exhaust manifold type | Dry |
| Exhaust flow at rated kW, m ³ /min. (cfm) | 600 (21189) |
| Exhaust temperature at rated kW, dry exhaust, °C (°F) | 515 (959) |
| Maximum allowable back pressure, kPa (in. Hg) | 8.5 (2.5) |
| Exhaust outlet size at engine hookup, mm (in.) | 2 @ 251 (9.88) |

Lubrication

| Lubricating System | |
|---|---------------|
| Type | Full Pressure |
| Oil pan capacity, dipstick mark max., L (qt.) | 240 (254) |
| Engine oil capacity, initial filling, L (qt.) | 300 (317) |
| Oil filter: quantity, type | 4, Spin-On |
| Oil cooler | Water-Cooled |

Application Data

Cooling

| Radiator System | |
|--|--------------|
| Ambient temp., standby rating, °C (°F) | 40 (104) |
| Engine water capacity, L (gal.) | 175 (46) |
| Radiator system capacity, including engine, L (gal.) | 717 (189) |
| Engine jacket water flow, Lpm (gpm) | 1350 (356) |
| Charge cooler water flow, Lpm (gpm) | 583 (154) |
| Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.) | 1115 (63409) |
| Heat rejected to charge cooling water at rated kW, dry exhaust, kW (Btu/min.) | 750 (42652) |
| Water pump type | Centrifugal |
| Fan diameter, including blades, mm (in.) | 2362 (93) |
| Fan, kWm (HP) | 63 (84) |
| Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O) | 0.125 (0.5) |

| High Ambient Radiator System | |
|--|--------------|
| Ambient temp., standby rating, °C (°F) | 50 (122) |
| Engine water capacity, L (gal.) | 175 (46) |
| Radiator system capacity, including engine, L (gal.) | 742 (196) |
| Engine jacket water flow, Lpm (gpm) | 1350 (356) |
| Charge cooler water flow, Lpm (gpm) | 583 (154) |
| Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.) | 1115 (63409) |
| Heat rejected to charge cooling water at rated kW, dry exhaust, kW (Btu/min.) | 750 (42652) |
| Water pump type | Centrifugal |
| Fan diameter, including blades, mm (in.) | 2743 (108) |
| Fan, kWm (HP) | 86 (116) |
| Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O) | 0.125 (0.5) |

| Remote Radiator System† | |
|--|-----------------------|
| Connection sizes: | Class 150 ANSI Flange |
| Water inlet/outlet, mm (in.) | 191 (7.5) Bolt Circle |
| Intercooler inlet/outlet, mm (in.) | 152 (6.0) Bolt Circle |
| Static head allowable above engine, kPa (ft. H ₂ O) | 149 (50) |

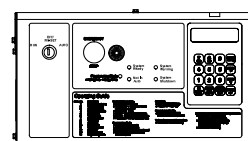
† Contact your local distributor for cooling system options and specifications based on your specific requirements.

Operation Requirements

| Air Requirements | |
|---|---------------|
| Radiator-cooled cooling air, m ³ /min. (scfm)‡ | 2424 (85600) |
| High ambient radiator-cooled cooling air, m ³ /min. (scfm)‡ | 3738 (132000) |
| Cooling air required for generator set when equipped with CWC or remote radiator, based on 14°C (25°F) rise, m ³ /min. (scfm)‡ | 801 (28300) |
| Combustion air, m ³ /min. (cfm) | 222 (7840) |
| Heat rejected to ambient air: | |
| Engine, kW (Btu/min.) | 90 (5118) |
| Generator, kW (Btu/min.) | 120 (6830) |
| ‡ Air density = 1.20 kg/m ³ (0.075 lbm/ft ³). | |

| Fuel Consumption | |
|-----------------------------|----------------|
| Diesel, Lph (gph) at % load | Standby Rating |
| 100% | 695.5 (183.7) |
| 75% | 514.4 (135.9) |
| 50% | 355.8 (94.0) |
| 25% | 200.6 (53.0) |

Controllers

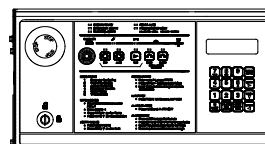


Decision-Maker® 550 Controller

Provides advanced control, system monitoring, and system diagnostics with remote monitoring capabilities.

- 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 G6-46 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
- 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.

Standard Features

- Alternator Protection
- Alternator Strip Heater (standard on 3300 volt and above)
- Closed Crankcase Breather System
- Flexible Exhaust Connector, Stainless Steel
- Local Emergency Stop Switch
- Low Coolant Level Shutdown
- Oil Drain Extension
- Operation and Installation Literature
- Radiator Core Guard
- Winding RTDs (standard on 3300 volt and above)

Available Options

Approvals and Listings

- CSA Approval
- IBC Seismic Certification
- UL 2200 Listing

Enclosed Unit

- Sound Enclosure (Contact Factory)
- Weather Enclosure (Contact Factory)

Open Unit

- Exhaust Silencer, Critical (kit: GM30322-KP1)
- Exhaust Silencer, Hospital (kit: GM30321-KP1)

Fuel System

- Flexible Fuel Lines
- Fuel/Water Separator
- Subbase Fuel Tank (Contact Factory)

Controller

- Common Failure Relay
- Communication Products and PC Software
- Customer Connection
(Standard with Decision-Maker® 6000 controller)
- Decision-Maker Paralleling System (DPS)
(Decision-Maker® 6000 controller only) (Contact Factory)
- Dry Contact (One-, Ten-, or Twenty-Relay Options)
- Prime Power Switch
- Remote Audiovisual Alarm Panel
- Remote Emergency Stop
- Remote Mounting Cable (Decision-Maker® 550 controller only)
- Remote Serial Annunciator Panel
- Run Relay

Cooling System

- Block Heater; 12000 W
Recommended for Ambient Temperatures Below 10°C (50°F)
- High Ambient Radiator
- Remote Radiator Cooling Setup

Electrical System

- Alternator Strip Heater (available up to 600 volt)
- Battery
- Battery Charger, 10 Amp. Equalize/Float Type
- Battery Heater
- Battery Rack and Cables
- Line Circuit Breaker (NEMA type 1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA type 1 enclosure)

Paralleling System

- Manual Speed Adjustment (Decision-Maker® 550 controller only)
- Manual Voltage Control (Decision-Maker® 550 controller only)
(Contact Factory)
- Remote Voltage Adjust Control (Decision-Maker® 550 only)

Miscellaneous

- Air Cleaner, Heavy Duty
- Air Cleaner Restriction Indicator
- Engine Fluids (oil and coolant) Added
- Rated Power Factor Testing
- Spring Isolators

Literature

- Decision-Maker® Paralleling System (DPS)
- General Maintenance
- NFPA 110
- Overhaul
- Production

Warranty

- 2-Year Basic Limited Warranty
- 5-Year Basic Limited Warranty
- 5-Year Comprehensive Limited Warranty
- 10-Year Major Components Limited Warranty

Other Options

- _____
- _____
- _____

Dimensions and Weights

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

40°C Radiator 7291 x 2774 x 3138 (287.1 x 109.2 x 123.5)

50°C Radiator 7291 x 3062 x 3299 (287.1 x 120.6 x 129.9)

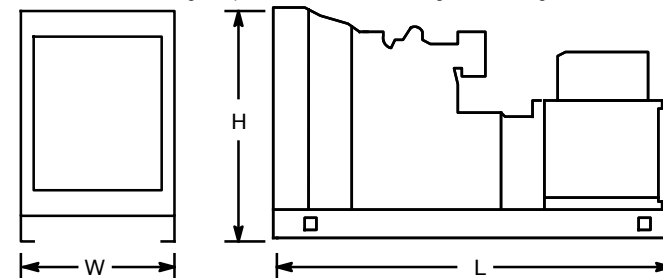
Weight 40°C Radiator, wet, max., kg (lb.):

23042 (50800)

50°C Radiator

23360 (51500)

Note: See ADV drawing for specific dimensions and weight based on generator selection



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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