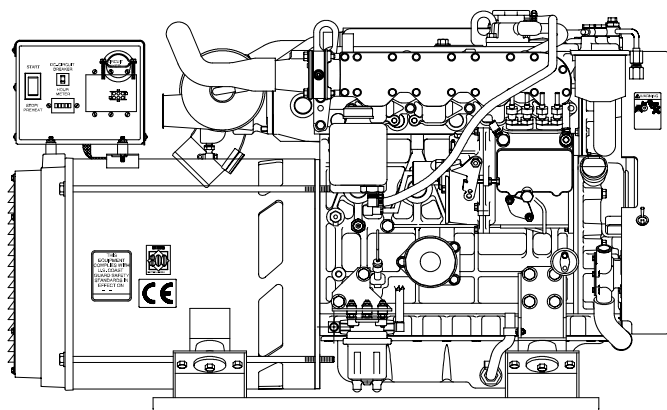


Model: 23EOZ 60 Hz
19EFOZ 50 Hz

KOHLER POWER SYSTEMS

1-Phase Diesel

ISO 9001
KOHLER
POWER SYSTEMS
NATIONALLY REGISTERED



Marine Generator Set

Engine Features

- Diesel powered
- Four cylinder
- Four cycle
- Closed cooling system
- Heat exchanger
- Lifting eyes
- Fuel lift pump

Generator Features

- Remote start connection availability
- Class F insulation
- Multivoltage adjustability
- 60/50 Hz capability
- Voltage regulation of $\pm 2\%$
- Frequency regulation of $\pm 5\%$
- Radio suppression

Optional Accessories

- Remote start and meter panel kit
- Seawater strainer
- Siphon break
- Sound shield

Generator Weights and Dimensions

| | Without Sound Shield | With Sound Shield |
|-------------------|-------------------------|----------------------|
| Weight, kg (lbs.) | | |
| wet | 358 (790) | 394 (870) |
| dry | 352 (775) | 387 (855) |
| Length, mm (in.) | | |
| 12 volt | 1056 (41.57) | 1137 (44.75) |
| 24 volt | 1069 (42.07) | 1137 (44.75) |
| Width, mm (in.) | 563 (22.17) | 654 (25.75) |
| Height, mm (in.) | 661 (26.03) | 730 (28.75) |

See the drawings on the last page for the detailed dimensions.

Generator Ratings

| Model Series | Voltage | Hz | 25°C (77°F) | 25°C (77°F) | Ph |
|--------------|---------|----|-------------|-------------|----|
| | | | Amps | kW/kVA | |
| 23EOZ | 100/200 | 60 | 180/90 | 18/18 | 1 |
| | 120/240 | 60 | 183.4/91.7 | 22/22 | 1 |
| 19EFOZ | 100/200 | 50 | 175/87.5 | 17.5/17.5 | 1 |
| | 110/220 | 50 | 172.8/86.4 | 19/19 | 1 |
| | 220 | 50 | 86.4 | 19/19 | 1 |
| | 240 | 50 | 77.1 | 18.5/18.5 | 1 |

RATINGS: Marine continuous ratings per ISO 3046, ISO 8528-1, and Kohler ISO rating guideline 2.14. Obtain technical information bulletin (TIB-101) on ratings guidelines for complete ratings definitions.

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 generator distributor for availability.

Application Data

Engine

| Engine Specifications | 60 Hz | 50 Hz |
|-----------------------------|-------------------------|-------|
| Manufacturer | Yanmar | |
| Model | 4TNE84-T | |
| Type | 4 cycle, turbocharged | |
| Cylinder, number | 4 | |
| Displacement, L (cu. in.) | 1.995 (121.74) | |
| Bore and stroke, mm (in.) | 84 (3.31) x 90 (3.54) | |
| Compression ratio | 18.0:1 | |
| Combustion system | Direct injection | |
| Rated rpm | 1800 | 1500 |
| Max. power at rated rpm, hp | 38.5 | 30.2 |
| Cylinder block material | Cast iron | |
| Cylinder head material | Cast iron | |
| Piston rings | 2 compression/1 oil | |
| Crankshaft material | Stamped forging | |
| Connecting rod material | Forged carbon steel | |
| Governor, type | Centrifugal, mechanical | |

Engine Electrical

| Engine Electrical System | 60 Hz | 50 Hz |
|-----------------------------------|---|-------|
| Battery, voltage | 12 volt (standard) 24 volt (optional) | |
| Battery, charging | 40-amp alternator | |
| Battery, recommendation (minimum) | 500 CCA, 100 amp hr. | |
| Starter motor | 1.8 kW Bendix, gear-reduction automotive type | |

Cooling

| Cooling System | 60 Hz | 50 Hz |
|--|--|-------|
| Capacity, L (U.S. qts.) (approx.) | 6.0 (6.3) | |
| Heat exchanger type | Yanmar, integral with water-cooled manifold | |
| Seawater pump type | Yanmar, belt driven | |
| Heat rejected to cooling water at rated kW, wet exhaust Btu/min. | 1195 | 938 |
| Engine water pump flow (gpm) | 9.5 | 8.1 |
| Seawater pump flow (gpm) | 6 | 5 |

Fuel

| Fuel System | 60 Hz | 50 Hz |
|--|-----------------------|-------|
| Fuel shutoff solenoid | Electric | |
| Fuel pump | Electric, rotary vane | |
| Fuel pump priming | Electric | |
| Maximum recommended fuel lift, m (ft.) | 1.2 (4) | |

Lubrication

| Lubricating System | 60 Hz | 50 Hz |
|---|-------------------------|-------|
| Oil pan capacity with filter, L (U.S. qts.) | 5.8 (6.1) | |
| Type | Pressure, trochoid pump | |

Operation Requirements

| Air Requirements | 60 Hz | 50 Hz |
|--|------------|------------|
| Engine combustion air requirements L/min. (cfm) | 1982 (70) | 1642 (58) |
| Engine/generator cooling requirements L/min. (cfm) | 5946 (210) | 4955 (175) |

| Fuel Consumption | 60 Hz | 50 Hz |
|------------------------------------|------------|------------|
| Diesel, Lph (gph) at % load | | |
| 100% | 7.3 (1.93) | 5.6 (1.47) |
| 75% | 5.6 (1.49) | 4.2 (1.10) |
| 50% | 4.1 (1.07) | 3.1 (0.81) |
| 25% | 2.8 (0.73) | 2.1 (0.56) |

Note: The fuel consumption of the 60 Hz model is based on 23EOZ, and the fuel consumption of the 50 Hz model is based on 19EFOZ.

Engine Features

- One-side serviceability of fuel system, lubrication system, seawater pump, and air cleaner
- Low oil pressure cutout
- High water and high exhaust temperature cutouts
- Focused vibromounts
- Belt guard
- Disposable oil filter
- Oil drain valve and hose
- Water-cooled turbocharger
- Overspeed safety shutdown (optional)

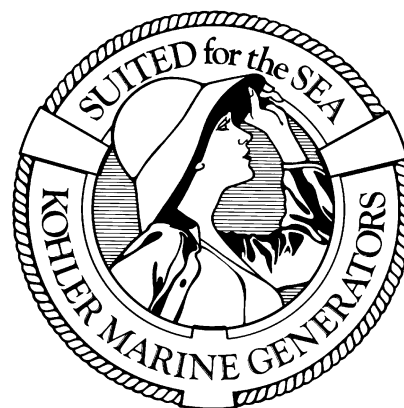
Controller Features

- Rubber-mounted to isolate vibration
- Safety shutdowns:
 - Engine overheat
 - Low oil pressure
 - Overspeed safety shutdown (optional)
- External 6-pin connector for remote panel harness
- Hourmeter for scheduling maintenance
- Start/stop switch
- Starter interlock to prevent reengagement of starter whenever engine is running
- Plug/receptacle controller connections
- Terminal connections:
 - Clearly identified
 - Corrosion resistant
 - Possibility of misconnection eliminated
- Quick disconnect equipped on 22-pin wiring harness
- Voltage/frequency adjustable PowerBoost™ voltage regulator

Application Data

Generator Features

- Brushless, rotating field design permits power to be obtained from stationary leads.
- Rotor and stator are vacuum impregnated and coated with high-bond epoxy varnish. Varnish helps prevent corrosion in high-humidity areas.
- Rotors are dynamically balanced to minimize vibration.
- Copper windings ensure minimal heat buildup. Insulation meets NEMA standards for class F insulation.
- Direct connected to the engine, the generator has sealed precision ball bearings with a precision-machined steel sleeve in the end bracket to prevent shaft misalignment and extend bearing life.
- The generator is mounted on a drip-proof tray.
- The generator is equipped with a four-lead reconnectable stator.



Accessories

Sound Shield

Provides for highly effective silencing, ease of access for engine/generator servicing, low maintenance, excellent durability, and safety.

Siphon Break

Mandatory kit on generators installed below the waterline. Prevents the siphoning of flotation water into the engine.

Line Circuit Breakers

Protect the generator from extreme overload.

Overspeed Shutdown Kit

Provides additional protection from overspeed damage.

Seawater Strainer

Equipped with a clear viewing jar allowing easy cleaning and maintenance of the strainer for a more efficient and longer-lived generator.

Ship-to-Shore Switch

Allows immediate switching to Kohler® generator set power or shore power protecting the electrical system from the possibility of simultaneous connection of both power sources. Available as a three-pole ship-to-shore switch.

Remote Start Panel

Allows starting/stopping from a location remote from the generator set. Supplied with a 101 mm (4 in.) connection harness. Overall mounting dimensions are 128 mm (5.04 in.) by 70 mm (2.76 in.) with a minimum mounting depth of 57 mm (2 1/4 in.).

Remote Start and Two-Meter Panel Kit

Allows starting/stopping from a location remote from the generator set. The illuminated gauges include an engine oil pressure gauge and a water temperature gauge. Overall dimensions are 152 mm (6 in.) by 152 mm (6 in.) with a minimum mounting depth of 70 mm (2 3/4 in.). Requires remote connection/extension harness and sender kit.

Remote Start and Four-Meter Panel Kit

Allows starting/stopping from a location remote from the generator set. The illuminated meters/gauges include a DC voltmeter, engine oil pressure gauge, water temperature gauge, and an hourmeter that records total generator set operating hours. Overall dimensions are 229 mm (9 in.) by 152 mm (6 in.) with a minimum mounting depth of 102 mm (4 in.). Requires remote connection/extension harness and sender kit.

Sender Kit

Provides senders necessary to make remote meter panel gauges functional.

Remote Connection/Extension Harness

Provides additional wiring between all remote panels and the controller connector. One required for each remote start and meter panel kit. Extension limited to a total of four kits and 23 m (75 ft.). Available in 4.6 m (15 ft.) and 7.6 m (25 ft.) lengths.

12-Inch Remote Wiring Harness

Equipped with a 6-pin connector on one end that is keyed to a controller box connector. Equipped on the other end with pigtails for connection to a customer-supplied start switch, generator ON light, hourmeter, etc.

Fuel Attachment Block

Allows connection to the fuel inlet and return from one point.

KOHLER[®] POWER SYSTEMS

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