



## Standard Features

### Generator 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 is CSA certified, file #LR 955.
- UL 2200 listing is available for the 60 Hz model REOD and REOZD generator sets.
- The 60 Hz generator set engine is certified by the Environmental Protection Agency (EPA) to conform to Tier 2 nonroad emissions regulations.
- A one-year limited warranty covers all systems and components. Two- and five-year extended warranties are also available.
- Four-point mounting with vibration isolators
- Static-excited (REOD) or brushless (REOZD) alternator
- Voltage regulation of  $\pm 1.5\%$
- Outstanding motor-starting capability
- Sustained short-circuit capability
- Remote start 12-pin connector

### ADC 2100 Advanced Digital Control Features

- Designed for today's most sophisticated electronics
- Easy to read alpha-numeric display
- Compact, integrally mounted control
- Potted boards/sealed connectors for maximum corrosion protection
- Remote monitoring of fault conditions
- Membrane keypad for configuration and adjustment
- Programmed crank cycle

### Optional Enclosure Features

- Enclosures reduce sound levels and protect the generator set from the elements, animal intrusion, and unwanted entry
- Fade-, scratch-, and corrosion-resistant Kohler cream beige finish with lockable, flush-mounted door latches
- Acoustic insulation meets UL 94 HF1 flammability classification
- Weather and sound enclosures available

## Generator Ratings

Model	Voltage	Hz	Ph	130 °C Rise Standby Rating		105 °C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
20REOD/ REOZD (4 lead 4H7)	120/240	60	1	20/20	83.3	18/18	75.0
	110/220	50	1	16.5/16.5	75	14.9/14.9	67.5
20REOD/ 20REOZD (12 lead 4J7)	120/208	60	3	20.0/25.0	69.5	18.0/22.5	62.6
	120/240	60	1	16.5/16.5	68.8	14.9/14.9	61.9
	120/240	60	3	20.0/25.0	60.2	18.0/22.5	54.2
	127/220	60	3	20.0/25.0	65.7	18.0/22.5	59.1
	139/240	60	3	20.0/25.0	60.2	18.0/22.5	54.2
	220/380	60	3	20.0/25.0	38.0	18.0/22.5	34.2
	277/480	60	3	20.0/25.0	30.1	18.0/22.5	27.1
	110/190	50	3	16.5/20.6	62.8	14.9/18.5	56.5
	110/220	50	1	14.0/14.0	63.6	12.6/12.6	57.2
	110/220	50	3	16.5/20.6	54.2	14.9/18.5	48.8
220/380	50	3	16.5/20.6	31.4	14.9/18.5	28.3	
230/400	50	3	16.5/20.6	29.8	14.9/18.5	26.8	
240/416	50	3	16.5/20.6	28.7	14.9/18.5	25.8	

RATINGS: All three-phase units are rated at 0.8 power factor. **Standby Ratings:** Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. **Prime Power Ratings:** Prime power ratings apply to installations where utility power is unavailable or unreliable. 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, overload power in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. For limited running time and base load ratings, consult the factory. Obtain the technical information bulletin (TIB-101) on ratings guidelines for the complete ratings definitions. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local Kohler® generator set distributor for availability. **GENERAL GUIDELINES FOR DERATING: ALTITUDE:** Derate 0.8% per 100 m (328 ft.) elevation above 200 m (656 ft.). **TEMPERATURE:** Derate 6.0% per 10 °C (18 °F) temperature above 25 °C (77 °F).

# Application Data

## Engine

Engine Specifications	60 Hz	50 Hz
Manufacturer	Yanmar	
Engine model	4TNV84T	
Engine type	4 cycle, turbocharged	
Cylinder arrangement	4, inline	
Bore and stroke, mm (in.)	84 (3.31) x 90 (3.54)	
Displacement, L (cu. in.)	1.995 (121.74)	
Compression ratio	18.9:1	
Combustion system	Direct injection	
Main bearings	Replaceable sleeve	
Rated rpm	1800	1500
Rated HP:		
Continuous	33.0	25.9
Maximum, 1 hr.	36.3	28.9
Cylinder block material	Cast iron	
Cylinder head material	Cast iron	
Crankshaft	Horizontal	
Connecting rod material	Forged carbon steel	
Governor, type	Mechanical	
Injection pump	Yanmar YPES	
Frequency regulation		
No-load to full-load	±2.5%	
Steady state	±0.33%	

## Engine Electrical

Engine Electrical System	60 Hz	50 Hz
Ignition		
Battery voltage	12	
Battery recommendation, min. CCA for 0°C (-18°F)	650 cold cranking amps, 100 amp/hr.	
Starter motor	12 VDC, 1.8 kW Bendix, gear-reduction automotive type	
Battery-charging alternator	12 VDC, 70 Amps	

## Exhaust

Exhaust System	60 Hz	50 Hz
Exhaust temperature at rated kW, °C (°F)	560 (1040)	550 (1022)
Maximum allowable back pressure, kPa (in. water)	9.81 (39.4)	
Exhaust outlet size at engine hookup	1.5 NPT	
Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)	6.1 (215)	4.6 (162)

## Lubrication

Lubricating System	60 Hz	50 Hz
Type	Pressure	
Oil pan capacity with filter, L (qt.)	5.8 (6.1)	
Oil filter	Full flow, cartridge	

## Cooling

Cooling System	60 Hz	50 Hz
Ambient temperature, °C (°F)	50 (122) *	
Type	Liquid	
Capacity, engine only, L (qt.)	2.7 (2.8)	
Capacity with unit-mounted radiator, L (qt.)	9.3 (9.8)	
Fan diameter, unit-mounted radiator, mm (in.)	409 (16.1)	
Heat rejected to cooling water at rated kW, Btu/min.	1123	886
Optional remote radiator setup:		
Water inlet, mm (in.)	34 (1.3)	
Water outlet, mm (in.)	28 (1.1)	

\* An enclosure reduces the ambient temperature capability by 5°C (9°F)

## Fuel

Fuel System	60 Hz	50 Hz
Fuel pump	Electric	
Maximum lift, m (in.)	1 (39)	
Fuel type	Diesel fuel ASTM D975 No. 2-D	
Fuel supply line	1/4 NPT	
Fuel return line, mm (in.)	8 (5/16)	

## Operation Requirements

Air Requirements	60 Hz	50 Hz
Combustion air, m <sup>3</sup> /min. (cfm)	2.4 (83)	2.0 (69)
Alternator min. cooling air, m <sup>3</sup> /min. (cfm)	6 (210)	5 (175)
Radiator min. cooling air, m <sup>3</sup> /min. (cfm)	45 (1600)	37 (1300)
Fuel Consumption	60 Hz	50 Hz
Diesel, Lph (gph), at % load		
100%	7.3 (1.9)	5.6 (1.5)
75%	5.6 (1.5)	4.2 (1.1)
50%	4.1 (1.1)	3.1 (0.8)
25%	2.8 (0.7)	2.1 (0.6)

## Sound

Acoustic Data with Sound Enclosure	60 Hz
Average dBA at 7 meters	
100% load	68
75% load	68
No load	68

# Alternator

## Alternator Specifications

Specifications	4H7 (1-phase)	4J7 (3-phase)
Manufacturer	Kohler	
Type	Rotating field	
Exciter type:		
REOD	Static Excited	
REOZD	Brushless	
Leads: quantity	4	12
Voltage regulator	Solid State	
Insulation:		
Material	Class H	
Temperature rise*	130°C	
Bearing: quantity, type	1	
Coupling	Flexible disc	
Amortisseur windings	Full	
Voltage regulation, no-load to full-load	±1.5% maximum	
One-step load acceptance	100% of Rating	
Peak motor starting kVA (35% dip):		
60 Hz	38	47.5
50 Hz	26	35.3

\* In 25°C ambient

## Alternator Features

- 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.
- Self-ventilated and dripproof construction.
- Windings vacuum impregnated with fungus-resistant epoxy varnish per MIL-I-24092.
- Class H insulation.
- Rotors are dynamically balanced to minimize vibration.
- Copper windings ensure minimal heat buildup. Insulation meets NEMA standards for class H insulation.
- Generator direct connected to the engine.
- Sealed precision ball bearings with a precision-machined steel sleeve in the end bracket prevent shaft misalignment and extend bearing life.
- Skewed rotor provides smooth voltage waveform.

# ADC 2100 Control Features

- **LED display:**
  - Runtime hours
  - Crank cycle status
  - Diagnostics/fault codes/data
- **Keypad:**
  - Secure access, password protected
  - Voltage, gain, and speed adjustment
  - Controller configuration (system voltage, number of phases, battery voltage, and generator set model)
- **Master control switch: run/off-reset/auto (engine start)**
- **Remote two-wire start/stop capability**
- **Potted electronics and sealed connections**
- **Voltage regulation ± 1.5%**
- **Cyclic cranking: 15 seconds on, 15 seconds off (3 cycles)**
- **Faults with shutdown:**
  - High engine temperature
  - Low oil pressure
  - Overcrank safety
  - Overspeed
  - Over/under voltage
  - Over/under frequency
  - Auxiliary fault
- **Faults with warning:**
  - Low battery voltage
  - High battery voltage
- **Power requirements:**
  - 12 VDC with fuse protection
  - 200 mA @ 12 VDC



## Generator Set Weights and Dimensions

Generator Set	Weight, Wet kg (lbs.)		Length mm (in.)	Width mm (in.)	Height mm (in.)
With Remote Radiator Setup	N/A		1048 (41.3)	672 (26.5)	639 (25.2)
With Inline Radiator	358 (790)		1203 (47.4)	587 (23.1)	719 (28.3)
With Radiator and Subbase Tank:	Without Fuel:	With Fuel:			
40 Gallon	583 (1285)	697 (1535)	1730 (68.1)	860 (33.9)	813 (32.0)
80 Gallon	637 (1405)	864 (1905)	1730 (68.1)	860 (33.9)	988 (38.9)
80 Gallon Plastic Tank	517 (1140)	744 (1640)	1730 (68.1)	860 (33.9)	988 (38.9)
With Radiator, Tank, and Enclosure:	Without Fuel:	With Fuel:			
40 Gallon	717 (1580)	831 (1830)	1782 (70.2)	912 (35.9)	1075 (42.3)
80 Gallon	771 (1700)	998 (2200)	1782 (70.2)	912 (35.9)	1250 (49.2)
80 Gallon Plastic Tank	651 (1435)	878 (1935)	1782 (70.2)	912 (35.9)	1250 (49.2)

## Accessories

### Cooling Systems

- Block Heater  
(recommended for ambient temperatures below 0°C [32°F])
- Radiator Duct Flange (not for enclosed units)
- Remote Radiator Setup
- Unit-Mounted Radiator w/Pusher Fan (included with enclosures)

### Electrical System

- Battery
- Battery Cables (for units with subbase tank)
- Battery Cables and Rack (for units with drip tray)
- Battery Charger
- Battery Heater  
(recommended for ambient temperatures below 0°C [32°F])
- Common Fault and Run Relays
- Electronic Governor  
(isochronous, with ±0.25% steady-state frequency regulation)
- Line Circuit Breaker
- Preheat Kit  
(recommended for ambient temperatures below 5°C [41°F])
- Remote Digital Gauge  
(requires oil pressure sender and remote harness)
- Remote Harness, 7.6 m (25 ft.)
- Remote Harness, 4.6 m (15 ft.)

### Enclosures (silencer included)

- Rodent Guards
- Sound Enclosure
- Weather Enclosure

### Engine

- Auxiliary Fuel Pump
- Exhaust Silencer (kit GM41678-KP1) (included on enclosed units)
- Flexible Fuel Lines (not available with plastic fuel tank)
- Oil Pressure Sender

### Fuel Tanks and Accessories

- 40 Gallon Subbase Tank and Mounting
- 80 Gallon Subbase Tank and Mounting
- 80 Gallon Plastic Fuel Tank and Mounting
- Inner Tank Leak Alarm (not available with plastic fuel tank)
- Low Fuel Alarm (not available with plastic fuel tank)

### Maintenance and Literature

- General Maintenance Literature Kit
- Overhaul Literature Kit
- Production Literature Kit

### Warranty

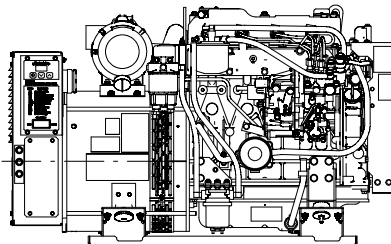
- Two-Year Extended Warranty
- Five-Year Extended Warranty

### Miscellaneous Accessories

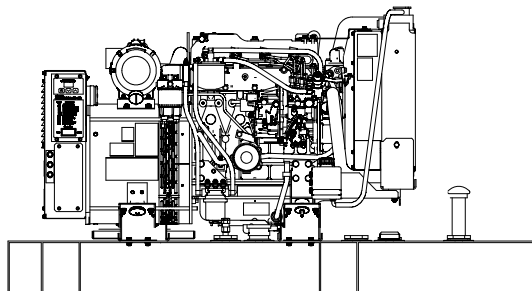
- Double-Stack Packaging (40 gallon tank only)
- Coolant in Generator Set
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## Standard Equipment

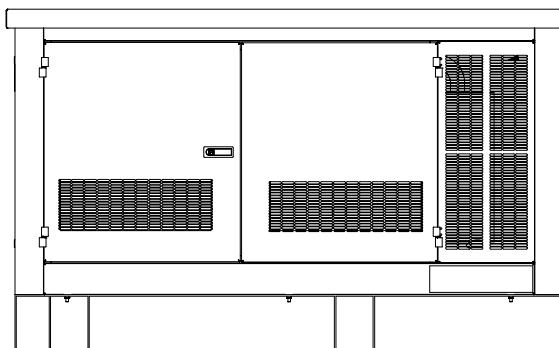
- ADC 2100 Controller
- Drip Tray (included on units without subbase tanks)
- Fuel/Water Separator
- Oil Drain Extension
- Remote Harness Pigtail, 305 mm (12 in.)



Generator Set with  
Remote Radiator Setup and Drip Tray



Generator Set with Unit-Mounted Radiator  
and Subbase Tank



Optional Enclosure and Subbase Tank

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