Model: KD275

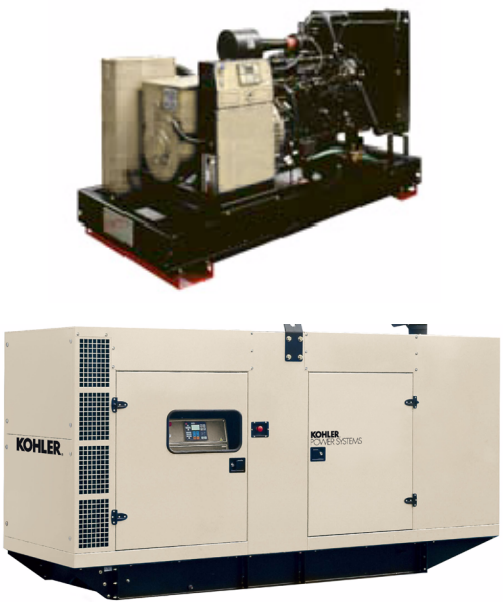
KOHLER POWER SYSTEMS

200–415 V **Diesel**

ISO 9001 KOHLER POWER SYSTEMS NATIONALLY REGISTERED

Ratings Range

		KD275
Standby:	**kW**	211–220
	kVA	264–275
Prime:	**kW**	192–200
	kVA	240–250



With Available Enclosure Accessory

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.
- A one-year limited warranty covers all systems and components.
- John Deere engine with 12-volt battery charging alternator.
- Leroy Somer single-bearing alternator with insulation class H.
- Unit-mounted radiator with 50°C (122°F) ambient air capability.
- Skid and vibration isolators.
- Subbase fuel tank, 390 L (103 gal.).
- Dry type air filter.
- Main line circuit breaker.
- Microprocessor controller.
- Battery, battery rack, and cables.
- Industrial exhaust silencer (loose).
- Operation and installation literature.

Generator Set Ratings

				Standby Rating		Prime Rating	
Alternator	**Voltage**	**Ph**	**Hz**	**kW/kVA**	**Amps**	**kW/kVA**	**Amps**
	115/200	3	50	220/275	794	200/250	722
	110/220	3	50	220/275	722	200/250	656
	115/230	3	50	220/275	690	200/250	620
LSA472VS2	120/240	3	50	211/264	635	192/240	577
	220/380	3	50	220/275	418	200/250	380
	230/400	3	50	220/275	397	200/250	361
	240/415	3	50	211/264	367	192/240	334

RATINGS: All three-phase units are rated at 0.8 power factor. See TIB-109 for generator set derate tables.
Obtain the technical information bulletin (TIB-101) on ratings guidelines for the complete ratings definitions.
PRP: Prime power is available for an unlimited number of annual operating hours in variable load applications in accordance with ISO-8528/1.
A 10% overload capability is available for a period of 1 hour within a 12-hour period of operating in accordance with ISO-3046/1.
ESP: The emergency standby power rating is applicable for supplying emergency power in variable load applications in accordance with ISO-8528/1. Overload is not allowed.
The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Alternator Specifications

- NEMA-MG21, UTE NF C51.111, VDE 0530, BS 4999, CSA standards compliance for temperature rise and motor starting.
- Self-ventilated and dripproof construction.
- Vacuum-impregnated windings with fungus-resistant epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.

Specifications	
Ratings voltage	400 V
Standby rating @ 27°C, kVA	275
Prime rating @ 40°C, kVA	250
Efficiency @ full load	93%
Air flow, m^3/min. (cfm)	25.8 (911)
Direct axis subtransient reactance (X"d)	15.5%

Specifications	Alternator
Manufacturer	Leroy Somer
Type	4-Pole, Rotating-Field
Exciter type	Shunt
Leads: quantity, type	12, Reconnectable
Voltage regulator	Solid State, R230
Insulation:	NEMA MG1
Material	Class H
Bearing: quantity, type	1, Sealed
Coupling	Direct
Voltage regulation, no-load to full-load	±1%

Application Data

Engine

Engine Specifications	
Manufacturer	John Deere
Engine model	6081HF001
Engine type	4-Cycle, Turbocharged, Aftercooled
Cylinder arrangement	6 Inline
Displacement, L (cu. in.)	8.1 (494)
Bore and stroke, mm (in.)	116 x 129 (4.6 x 5.1)
Compression ratio	15.7:1
Piston speed, m/min. (ft./min.)	464 (1524) 387 (1266)
Rated rpm	1500
Max. power at rated rpm, kWm (BHP)	261 (349.7)
Valve material:	
Intake	Chromium-Silicon Steel
Exhaust	Stainless Steel
Governor type	
Frequency regulation, no-load to full-load	ISO 5%
Frequency regulation, steady state	±2.5%
Air cleaner type, all models	Dry

Exhaust

Exhaust System	
Exhaust manifold type	Dry
Exhaust flow at rated kW, m^3/min. (cfm)	44.4 (1568)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	640 (1184)
Maximum allowable back pressure, kPa (in. Hg)	7.5 (2.2)
Exhaust outlet size at engine hookup, mm (in.)	100 (3.94)

Engine Electrical

Engine Electrical System	
Battery charging alternator:	12 Volt
Ground (negative/positive)	Negative
Volts (DC)	12
Starter motor rated voltage (DC)	12
Battery, recommended cold cranking amps (CCA):	
Quantity, CCA rating each	One, 1000
Battery voltage (DC)	12

Fuel

Fuel System	
Max. fuel flow, Lph (gph)	203 (53.6)
Fuel prime pump	Manual
Recommended fuel	#2 Diesel
Fuel tank capacity, L (gal.)	390 (103)

Lubrication

Lubricating System	
Type	Full Pressure
Oil pan capacity, L (qt.)	
Oil pan capacity with filter, L (qt.)	32.0 (8.5)

Cooling

Radiator System	
Ambient temperature, °C (°F)	50 (122)
Radiator system capacity, including engine, L (gal.)	40 (10.6)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	213 (12111)
Water pump type	Centrifugal
Fan, kWm (HP)	7.0 (9.4)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H_2O)	0.2 (0.8)

Application Data

Operation Requirements

Air Requirements	
Radiator-cooled cooling air, m^3/min. (scfm) *	330 (11655)
Combustion air, m^3/min. (cfm)	18.2 (642)

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

Fuel Consumption	
Diesel, Lph (gph) at % load	**Standby Rating**
110% (standby rating)	68.0 (18.0)
Diesel, Lph (gph) at % load	**Prime Rating**
100% (of the prime rating)	56.9 (15.0)
75% (of the prime rating)	42.6 (11.3)
50% (of the prime rating)	29.4 (7.8)

Controllers

Decision-Maker™ 1000

Automation

- Test LEDs
- Voltage and speed stabilization

Engine Parameters

- Engine speed indication (with LCD message)
- Battery voltage indication (with LCD message)
- Elapsed hour meter (with LCD message)
- Fuel solenoid control
- Starter control

Measurements

- Frequency, Hz (with LCD message)

Operation and/or Safety Lights

- Oil pressure fault
- Water temperature fault
- Fail to start fault
- Overspeed fault (≥60 kVA)
- Set ready for load
- Charging alternator fault
- General alarm
- General fault
- Panel lamp
- Emergency stop fault

Safety Devices

- Overspeed fault
- Automatic standby

Miscellaneous

- Fault reset
- Three-phase with or without neutral, two-phase, or single-phase use

Decision-Maker™ 4000

Standard Features

- Large LCD display panel
- Unique control wheel for system access
- User buttons for start, stop, menu, and escape
- Emergency stop button
- On/off key switch
- Panel-mounted battery fuse
- Panel-mounted USB ports for PC access and software upgrades
- Password protected access to control parameters
- Upgradeable software for future enhancements
- Easy upgrade from Decision-Maker™ 1000

LCD Panel Features

- 600 x 800 resolution
- Multiple lines of text or graphic display
- Icons for quick identification of system status
- Five languages: English, French, German, Portuguese, and Spanish

Communication Features

- Engine communication via CANbus
- Modbus communication via RS-485 or Ethernet
- PC and flash drive connections via USB

Functions

- View and adjust system operation parameters
- View system faults

Viewable/Selectable Parameters (may require optional module)

- Voltage: phase-to-neutral, total voltage
- Current
- Frequency
- Power (active/reactive/apparent)
- Power factor
- Engine speed
- Oil pressure
- Coolant temperature
- Battery voltage
- Fuel level (%)
- Time delays

Viewable Faults (over 60 individual faults are monitored) including:

- Alternator protection
- Circuit breaker and ground fault protection
- Communication and engine ECM monitoring
- Cooling air monitoring
- Electrical charging system
- Engine cooling system
- Engine lube system
- Fuel system
- Generator set status

KOHLER CO., Kohler, Wisconsin 53044 USA
Phone 920-565-3381, Fax 920-459-1646
For the nearest sales and service outlet in the US and Canada, phone 1-800-544-2444
KohlerPowerSystems.com

Kohler Power Systems, EMEA Headquarters
ZI Senia 122
12, rue des Hauts Flouviers
94517 Thiais Cedex, France
Phone (33) 1 41 735500, Fax (33) 1 41 735501

Kohler Power Systems
Asia Pacific Headquarters
7 Jurong Pier Road
Singapore 619159
Phone (65) 6264-6422, Fax (65) 6264-6455

Available Accessories

Enclosed Unit

- ❑ Sound Enclosure M227, 69.5 dB(A) @ 7 m (23 ft.), Standby (with enclosed critical silencer)

Open Unit

- ❑ Exhaust Silencer, Critical 40 dB(A) Reduction
- ❑ Exhaust Silencer, Residential 29 dB(A) Reduction
- ❑ Extension, 40 cm (16 in.)
- ❑ Flexible Exhaust Connector
- ❑ Protection Mesh

Cooling System

- ❑ Block Heater [recommended for ambient temperatures below 0°C (32°F)]
- ❑ Radiator Core Guard

Decision-Maker™ 1000 Controller

- ❑ Alarm Horn
- ❑ Analog Indicator
- ❑ Differential Protection with Time and Sensitivity Adjustment
- ❑ Differential Triggering Fault
- ❑ External ATS Position
- ❑ External Starting Order
- ❑ Line Voltages, Volts Indicator
- ❑ Overload or Short-Circuit Fault
- ❑ Permanent Insulation Controller
- ❑ Phase Currents, Amps Indicator
- ❑ Plug Preheating
- ❑ Plug Preheating Control
- ❑ Remote Start Capability
- ❑ Single Voltages, Volts Indicator
- ❑ Utility Sensing, 3-Phase
- ❑ Water Preheating Control

Decision-Maker™ 4000 Controller

- ❑ Alternator Protection
- ❑ Audible Alarm Module
- ❑ Five Expandable Modules with Four Inputs/Six Outputs Each
- ❑ Network Modules (RTC and GSM modems and ethernet router)
- ❑ NFPA-110 Module
- ❑ Remote Annunciator
- ❑ Voltage/Speed Adjustment Module
- ❑ WinTelys Software

Fuel System

- ❑ Automatic Fuel Tank Fill Kit
- ❑ Subbase Fuel Tank with Secondary Containment Basin
- ❑ Subbase Fuel Tank Leak Alarm
- ❑ Water Separator Fuel Filter

Electrical System

- ❑ Battery Charger, Equalize/Float Type
- ❑ Battery Isolator Switch

Engine and Alternator

- ❑ Alternator Strip Heater
- ❑ Air Cleaner, Heavy Duty (with air restriction indicator)
- ❑ Droop Kit with 3-Function Voltage Regulator
- ❑ Lube Oil Drain Pump
- ❑ PMG Alternator and Voltage Regulator
- ❑ Tropical Heavy-Duty Alternator Insulation

Miscellaneous Accessories

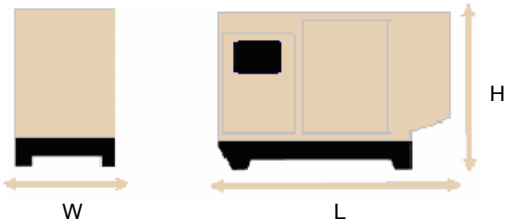
- ❑ _____
- ❑ _____
- ❑ _____
- ❑ _____
- ❑ _____

Dimensions and Weights

Open Model

Overall Size, L x W x H, mm (in.): 2900 x 1300 x 1697 (114 x 51 x 67)
Weight, wet, kg (lb.): 2170 (4784)

With Available Enclosure Accessory



Overall Size, L x W x H, mm (in.): 4004 x 1380 x 2125 (158 x 54 x 84)
Weight, wet, kg (lb.): 3150 (6944)

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

DISTRIBUTED BY: