Industrial Diesel Generator Set – KH275
50 Hz

RATINGS 400 V - 50 Hz		
Standby	kVA	275
	kWe	220
Prime	kVA	250
	kWe	200

Benefits & features

KOHLER SDMO premium quality

- Design offices using the latest technical innovations
- Modern fully certified factories
- A cutting edge laboratory
- The generating set, its components and a wide range of options have been fully developed, prototype tested, factory built, and production tested

KOHLER SDMO premium performances

- Optimized and certified sound levels
- Reliable power, even in extreme conditions
- Optimized fuel consumption
- Compact footprint
- Best quality of electricity, high starting and loading capacity, according to ISO8528-5
- Robust base frames and high-quality enclosures
- Protection of installations and people
- Approved in line with the most stringent standards

Engines

- Premium level engines, in-house or from strong partners
- High power density, small footprint
- Low temperature starting capability
- Long maintenance interval

Alternator

- Provide industry leading motor starting capability
- Made in Europe
- Excitation system to permit sustained overcurrent > 300% In, during 10 sec
- Built with a class H insulation and IP23

Cooling

- A flexible solution using an electrical driven radiator fan
- Designed or optimized by KOHLER-SDMO
- High temperature and altitude product capacity available

Base frame and enclosure

- High quality steel with enhanced corrosion resistance
- Highly durable QUALICOAT-certified epoxy paint
- Minimum 1000 hours of resistance to salt spray in accordance with ISO12944
- Ergonomic access to allow easy maintenance and connection of the generator
- Robust design optimized for transportation

GENERAL SPECIFICATIONS	
Engine brand	DOOSAN
Alternator commercial brand	KOHLER
Voltage (V)	400/230
Standard Control Panel	APM303
Optional Control Panel	APM403
Consumption @ 100% load ESP (L/h)	59
Consumption @ 100% PRP load (L/h)	53
Type of Cooling	Mechanical driven fan
Performance class	G3

GENERATOR SETS RATINGS

				Standby Rating			Prime Rating	
	Voltage	PH	Hz	kWe	kVA	Amps	kWe	kVA
KH275	415/240	3	50	220	275	383	200	250
	400/230	3	50	220	275	397	200	250
	380/220	3	50	220	275	418	200	250
	200/115	3	50	220	275	794	200	250
	240 TRI	3	50	220	275	662	200	250
	230 TRI	3	50	220	275	690	200	250
	220 TRI	3	50	220	275	722	200	250

DIMENSIONS COMPACT VERSION	
Length (mm)	2900
Width (mm)	1300
Height (mm)	1670
Tank capacity (L)	390
Dry weight (kg)	2310

DIMENSIONS SOUNDPROOFED VERSION	
Type soundproofing	M227
Length (mm)	4004
Width (mm)	1380
Height (mm)	2145
Tank capacity (L)	390
Dry weight (kg)	3160
Acoustic pressure level @1m in dB(A) 50Hz (75% PRP)	83
Acoustic pressure level @7m in dB(A) 50Hz (75% PRP)	73

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Engine

General	
Engine brand	DOOSAN
Engine ref.	P126TI
Air inlet system	Turbo
Cylinders configuration	L
Number of cylinders	6
Displacement (L)	11.05
Bore (mm) * Stroke (mm)	123 * 155
Compression ratio	17 : 1
Speed (RPM)	1500
Maximum stand-by power at rated RPM (kW)	272
Charge Air coolant	Air/Air
Frequency regulation, steady state (%)	+/- 0.25%
Injection Type	Direct
Governor type	Electronic
Air cleaner type, models	Dry

Fuel system	
Maximum fuel pump flow (L/h)	270
Max head on fuel return line (m)	1
Consumption with cooling system	
Consumption @ 100% load ESP (L/h)	66.20
Consumption @ 100% PRP load (L/h)	58.10
Consumption @ 75% PRP load (L/h)	43.60
Consumption @ 50% PRP load (L/h)	30

Emissions	
Emission PM (g/kW.h)	0.14
Emission CO (g/kW.h)	0.11
Emission NOx (g/kW.h)	8.01
Emission HC (g/kW.h)	0.33

Lubrication System	
Oil system capacity including filters (L)	25
Min. oil pressure (bar)	0.50
Max. oil pressure (bar)	10
Oil sump capacity (L)	23
Oil consumption 100% ESP 50Hz (L/h)	0.06

Air Intake system	
Max. intake restriction (mm H2O)	635
Intake air flow (L/s)	273

Exhaust system	PRP	ESP
Heat rejection to exhaust (kW)		254
Exhaust gas temperature (°C)		560
Exhaust gas flow (L/s)		715
Max. exhaust back pressure (mm H2O)	600	

Cooling system	
Radiator & Engine capacity (L)	50.50
Fan power (kW)	7
Fan air flow w/o restriction (m3/s)	5
Available restriction on air flow (mm H2O)	20
Type of coolant	Glycol-Ethylene
Radiated heat to ambient (kW)	35
Heat rejection to coolant HT (kW)	107
Max coolant temperature, Shutdown (°C)	103
Thermostat begin of opening HT (°C)	71
Thermostat end of opening HT (°C)	85

* Engine reference may be partially modified depending on genset application, options selected by the customer and lead time required.

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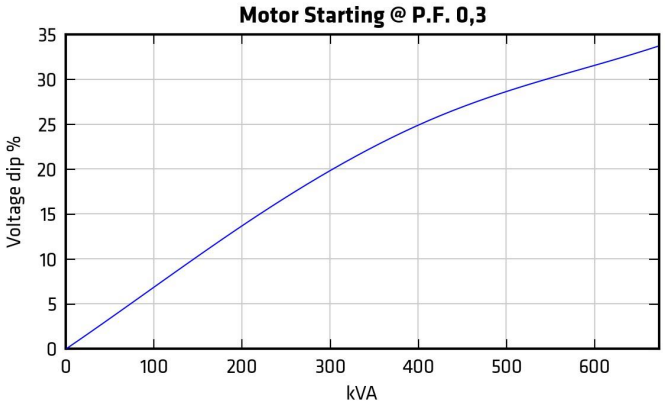
Alternator Specifications	
Alternator commercial brand	KOHLER
Alternator ref.	KH01380T
Number of pole	4
Number of bearing	Single Bearing
Technology	Brushless
Indication of protection	IP23
Insulation class	H
Number of wires	12
Capacity for maintaining short circuit at 3 In for 10 s	Yes
AVR Regulation	Yes
Coupling	Direct

Application data	
Overspeed (rpm)	2250
Power factor (Cos Phi)	0.80
Voltage regulation at established rating (+/- %)	1
Wave form : NEMA=TIF	<40
Wave form : CEI=FHT	<2
Total Harmonic Distortion in no-load DHT (%)	2.0
Total Harmonic Distortion, on linear load DHT (%)	2.9
Recovery time (Delta U = 20% transcient) (ms)	200

Performance datas	
Continuous Nominal Rating 40°C (kVA)	250
Unbalanced load acceptance ratio (%)	100

Peak motor starting (kVA) based on x% voltage dip power factor at 0.3



Alternator Standard Features

- All models are brushless, rotating-field alternators
- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting
- The AVR voltage regulator provides superior short circuit capability
- Self-ventilated and dip proof construction
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds
- Superior voltage waveform

Note: See Alternator Data Sheets for alternator application data and ratings, efficiency curves, voltage dip with motor starting curves, and short circuit decrement curves.

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Dimensions compact version

Length (mm) * Width (mm) * Height (mm)	2900 * 1300 * 1670
Dry weight (kg)	2310
Tank capacity (L)	390

Dimensions soundproofed version

M227

Length (mm) * Width (mm) * Height (mm)	4004 * 1380 * 2145
Dry weight (kg)	3160
Tank capacity (L)	390
Acoustic pressure level @1m in dB(A) 50Hz (75% PRP)	83
Measured acoustic power level (Lwa) 50Hz (75% PRP)	102
Acoustic pressure level @7m in dB(A) 50Hz (75% PRP)	73

Dimensions DW compact version

Length (mm) * Width (mm) * Height (mm)	4056 * 1360 * 1885
Dry weight (kg)	2770
Tank capacity (L)	950

Dimensions DW soundproofed version

M227 DW

Length (mm) * Width (mm) * Height (mm)	4056 * 1380 * 2340
Dry weight (kg)	3960
Tank capacity (L)	950
Acoustic pressure level @1m in dB(A) 50Hz (75% PRP)	83
Measured acoustic power level (Lwa) 50Hz (75% PRP)	102
Acoustic pressure level @7m in dB(A) 50Hz (75% PRP)	72

Dimensions DW 48h soundproofed version

M227 DW48

Length (mm) * Width (mm) * Height (mm)	4056 * 1380 * 2618
Dry weight (kg)	3965
Tank capacity (L)	2130
Acoustic pressure level @1m in dB(A) 50Hz (75% PRP)	83
Measured acoustic power level (Lwa) 50Hz (75% PRP)	102
Acoustic pressure level @7m in dB(A) 50Hz (75% PRP)	72

APM303

The APM303 is a versatile unit which can be operated in manual or automatic mode. It offers the following features:

- Measurements: phase-to-neutral and phase-to-phase voltages, fuel level (In option : active power currents, effective power, power factors, Kw/h energy meter, oil pressure and coolant temperature levels)
- Supervision: Modbus RTU communication on RS485
- Reports: (In option : 2 configurable reports)
- Safety features: Overspeed, oil pressure, coolant temperatures, minimum and maximum voltage, minimum and maximum frequency (Maximum active power P<66kVA)
- Traceability: Stack of 12 stored events

For further information, please refer to the data sheet for the APM303

APM403

BASIC GENERATING SET AND POWER PLANT CONTROL

The APM403 is a versatile control unit which allows operation in manual or automatic mode

- Measurements : voltage and current
- kW/kWh/kVA power meters
- Standard specifications: Voltmeter, Frequency meter.
- Optional : Battery ammeter.
- J1939 CAN ECU engine control
- Alarms and faults: Oil pressure, Coolant temperature, Overspeed, Start-up failure, alternator min/max, Emergency stop button.
- Engine parameters: Fuel level, hour counter, battery voltage.
- Optional (standard at 24V): Oil pressure, water temperature.
- Event log/ Management of the last 300 genset events.
- Mains and genset protection
- Clock management
- USB connections, USB Host and PC,
- Communications : RS485 INTERFACE
- ModBUS protocol /SNMP
- Optional : Ethernet, GPRS, remote control, 3G, 4G,
- Websupervisor, SMS, E-mails

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STANDARD SCOPE OF SUPPLY

All our gensets are fitted with:

- Industrial water cooled DIESEL engine
- Electric starter & charge alternator
- Standard air filter
- Schneider or ABB electric circuit breaker, adapted to the short-circuit current of the generating set
- Single bearing alternator IP 23 T° rise/ insulation to class H/H
- Welded steel base frame with 85% vibration attenuation mounts
- 4 lifting points on the chassis, lifting bar on the top included from 165 kVA ESP or optional
- highly durable QUALICOAT certified epoxy paint
- frame height optimized to allow it to be moved safely by forklift
- enclosure made of new high-quality European steel with enhanced corrosion resistance
- IP 64 locks, made from stainless materials
- enclosures and base frames tested and analyzed by the French Corrosion Institut
- 100% of tanks tested for permeability
- Personal protection ensured by protective grilles on hot and rotating parts
- Separate 9 dB(A) silencer
- Fuel tank welded inside the genset frame
- Retention bund included for gensets up to 110 kVA ESP
- Charged DC starting battery with electrolyte
- Emergency stop button on the outside
- Flexible fuel lines & lub oil drain cock
- Exhaust outlet with flexible and flanges
- User's manual (1 copy)
- Packing under plastic film
- Delivered with oil and antifreeze liquid

CODES AND STANDARDS

Engine-generators set is designed and manufactured in facilities certified to standards ISO9001:2015 & ISO14001:2015. The generator sets and its components are prototype-tested, factory built and production tested and are in compliance with the relevant standards:

- Machinery Directive 2006/42/EC of May 17th 2006
- EMC Directive2014/30/UE
- Safety objectives set out in the Low Voltage Directive 2014/35/UE
- EN ISO 8528-13, EN 60034-1, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 55011, EN 1679-1 et EN 60204-1

POWER RATINGS DEFINITION according to ISO8528-1 (2018-02 edition) and ISO-3046-1

Emergency Standby Power (ESP): The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Average load factor per 24 hours of operation is <70%.

Prime Power (PRP): At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour within 12 hour of operation. Average load factor per 24 hours of operation is <70%.

TERMS OF USE

According to the standard, the nominal power assigned by the genset is given for 25°C Air Intlet Temperature, of a barometric pressure of 100 kPA (100 m A.S.L), and 30% relative humidity. For particular conditions in your installation, refer to the derating table