



GROSS RATINGS RANGE		
Standby	kVA	3820 - 4360
	kWe	3056 - 3488
Data Center / Mission Critical	kVA	3820 - 4360
	kWe	3056 - 3488
Prime	kVA	3600 - 3970
	kWe	2880 - 3176

Benefits & features

KOHLER SDMO premium quality

- KOHLER SDMO provides **one source responsibility** for the generating set and accessories
- The generator set, its components and a wide range of options have been **fully developed, prototype tested, factory built, and production-tested**
- The generator sets are designed in accordance to ISO8528-5 performance **class G3** and accepts rated load in one step

KOHLER SDMO premium performances

Engines

- Low fuel consumption thanks to a high technology common rail injection engine
- A smaller footprint thanks to a high-power density
- Low temperature starting capability
- Long maintenance interval

Alternator

- Provide industry leading motor starting capability
- 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
- High temperature and altitude product capacity available

Control Panel

- The KOHLER SDMO wide controller range provide the reliability and performances you expect from your equipment. You can program, manage and diagnose it easily and in an efficient way

KOHLER SDMO worldwide support

- A standard three-year or 1000-hour limited warranty for standby applications.
- A standard two-year or 8700-hour limited warranty for prime power applications.
- A worldwide product support

GENERAL SPECIFICATIONS

Engine type	KOHLER KD103V20
Alternator choices	KH08890T KH09720T
Voltage (V)	11000
Standard Control Panel	M80-D, APM802
Consumption @4050kVA ESP (L/h)	740
Consumption @3680kVA PRP (L/h)	672
Engine optimization	Fuel optimization
Type of Cooling	Electrical driven fan
Performance class	G3
One step load acceptance (out of ISO criteria)	100%

DIMENSIONS COMPACT VERSION WITH ALTERNATOR KH08890T AND WITHOUT COOLING

Length (mm)	6686
Width (mm)	2248
Height (mm)	2829
Tank capacity (L)	0
Dry weight (kg)	26000

GENERATOR SET RATINGS

Alternator reference	Voltage	Gross rating (without cooling) or Net rating (with cooling)	Standby Rating Depending on alternator T° rise								Data Center Mission Critical Rating Depending on alternator T° rise								Prime Rating Depending on alternator T° rise						
			Class H				Class F				Class H				Class F				Class H		Class F				
			163°C/27°C			150°C/40°C			143°C/27°C			130°C/40°C			163°C/27°C		150°C/40°C		143°C/27°C		130°C/40°C		125°C/40°C		105°C/40°C
	kWe	kVA	Amps	kWe	kVA	kWe	kVA	kWe	kVA	kWe	kVA	Amps	kWe	kVA	kWe	kVA	kWe	kVA	kWe	kVA	Amps	kWe	kVA		
KH08890T	11000/6350V	Gross	3240	4050	213	3168	3960	3112	3890	3056	3820	3240	4050	213	3168	3960	3112	3890	3056	3820	2944	3680	193	2880	3600
		Net with elec cooling	3120	3900	205	3048	3810	2992	3740	2936	3670	3120	3900	205	3048	3810	2992	3740	2936	3670	2840	3550	186	2760	3450
KH09720T	11000/6350V	Gross	3488	4360	229	3488	4360	3456	4320	3392	4240	3488	4360	229	3488	4360	3456	4320	3392	4240	3176	3970	208	3168	3960
		Net with elec cooling	3368	4210	221	3368	4210	3336	4170	3272	4090	3368	4210	221	3368	4210	3336	4170	3272	4090	3056	3820	200	3056	3820

Reference Conditions: 25°C Air Inlet Temperature, 40°C Fuel Inlet Temperature, 100 kPa Barometric Pressure; 10.7 g/kg of dry air Humidity. Intake Restriction set to maximum allowable limit for clean filter; Exhaust Back pressure set to maximum allowable limit.

Data was taken from a single engine test according to the test methods, fuel specification and reference conditions stated above and is subjected to instrumentation and engine-to-engine variability. Test conducted with alternate test methods, instrumentation, fuel or reference conditions can yield different results. Data and specifications subject to change without notice.

Engine

General

Engine brand	KOHLER KD Series
Engine reference*	KD103V20-5BFS
Air inlet system	Turbo
Fuel	Diesel Fuel
Engine optimization	Fuel optimization
Cylinders configuration	V
Number of cylinders	20
Displacement (L)	103.43
Bore (mm) * Stroke (mm)	175 * 215
Compression ratio	16 : 1
Speed (RPM)	1500
Maximum stand-by power at rated RPM (kW)	3608
Piston type & material	Steel
Charge Air coolant	Air/Water
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)	1200
Fuel Inlet Minimum recommended size (mm)	TBC
Fuel Outlet Minimum recommended size (mm)	TBC
Max head on fuel return line (m)	3.50
Maximum allowed inlet fuel temperature (°C)	70

Engine specific fuel consumption	PRP engine	ESP engine
Consumption @ 100% load (g/kWh)	187	189
Consumption @ 75% load (g/kWh)	192	190
Consumption @ 50% load (g/kWh)	204	200
Consumption @ 25% load (g/kWh)	233	229

Lubrication System

Oil system capacity including filters (L)	700
Min. oil pressure (bar)	3.7
Max. oil pressure (bar)	11
Oil sump capacity (L)	575
Oil consumption @100% ESP (L/h)	1.69

Air Intake system

Max. intake restriction (mm H2O)	510
Intake air flow (L/s)	4492

Exhaust system

	PRP engine	ESP engine
Heat rejection to exhaust (kW)	2190	2390
Exhaust gas temperature (°C)	470	465
Exhaust gas flow (L/s)	10340	11659
Max. exhaust back pressure (mm H2O)	850	

Optional cooling system (HT/LT)

Type of coolant	GENCOOL
Radiated heat to ambient (kW)	150
Heat rejection to coolant HT (kW)	1180
Flow on the HT circuit at 0.7Bars pressure drop off engine (L/min)	1950
Outlet coolant temperature (°C)	95
Coolant capacity HT, engine only (L)	295
Max coolant temperature, Shutdown (°C)	103
Restriction pressure drop off engine – HT circuit (mbar)	700
Minimal pressure before HT pump (mbar)	400
Max. pressure at inlet of HT water pump (mbar)	2500
Thermostat begin of opening HT (°C)	71
Thermostat end of opening HT (°C)	81
HT Standard pressure cap setting (kPa)	100
Heat rejection to coolant LT (kW)	890
Flow on the LT circuit at 0.7Bars pressure drop off engine (L/min)	650
Temperature of inlet to LT engine water circuit (°C)	55
Coolant capacity LT, engine only (L)	105
Restriction pressure drop off engine – LT circuit (mbar)	700
Minimal pressure before LT pump (mbar)	400
Max. pressure at inlet of LT water pump (mbar)	2500
LT Standard pressure cap setting (kPa)	100

* : 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 choices	KH08890T KH09720T
Number of pole	4
Number of bearing	Double Bearing
Technology	Brushless
Indication of protection	IP23
Insulation class	H
Number of wires	06
Winding pitch	2/3
Capacity for maintaining short circuit at 3 In for 10 s	Yes
AVR Regulation	Yes
Coupling	Semi-elastic

Application data

Overspeed (rpm)	2250
Power factor (Cos Phi)	0.80
Voltage regulation at established rating (+/- %)	0.50
Wave form : NEMA=TIF	<50
Wave form : CEI=FHT	<2
Total Harmonic Distortion in no-load DHT (%)	<3.5
Total Harmonic Distortion, on linear load DHT (%)	<3.5
Recovery time (Delta U = 20% transient) (ms)	500
Unbalanced load acceptance ratio (%)	8

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 without cooling

Alternator reference	Length (mm)	Width (mm)	Height (mm)	Dry Weight (kg)	Tank capacity (L)
KH08890T	6686	2248	2829	26000	0
KH09720T	6779			26100	



Reference Conditions: 25°C Air Inlet Temperature, 40°C Fuel Inlet Temperature, 100 kPa Barometric Pressure; 10.7 g/kg of dry air Humidity. Intake Restriction set to maximum allowable limit for clean filter; Exhaust Back pressure set to maximum allowable limit.

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M80-D

The M80-D can be used as a basic terminal block for connecting a control unit and as an instrument panel with a highly intuitive LCD screen giving an overview of your generating set's basic parameters:

- Oil gauge
- Coolant temperature
- Oil temperature
- Engine speed
- Battery voltage
- Charge air temperature
- Fuel consumption
- etc.

The engine main functions can be controlled and events are recorded to facilitate diagnostics:

- Starting
- Speed adjustment
- Stopping
- Droop
- etc.

APM802**ADVANCED POWER PLANT MANAGEMENT CONTROL**

Dedicated to power plant management APM802 provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility

- Graphic display with touchscreen
- User language selectable
- Specially researched ergonomics
- High level of equipment availability
- USB and Ethernet ports
- Modbus protocol
- Making it easy to extend the installation
- Complies with the international standard IEC 61131-3

STANDARD SCOPE OF SUPPLY

All our KD Series gensets are fitted with:

- Industrial water cooled DIESEL engine
- Electric starter & charge alternator 24 V D.C
- Electronic governor
- Standard air filter
- alternator IP 23 insulation class H
- Welded steel base frame
- M80-D control panel
- Flexible fuel lines & lub oil drain pump
- Fuel water separator filter
- Exhaust outlet with flexible and flanges
- User's manual (1 copy)
- Packing under plastic film
- Delivered with oil

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 Directive 2014/30/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

TERMS OF USE

According to the standard, the nominal power assigned by the genset is given for 25°C Air Inlet 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.

WARRANTY INFORMATIONS

Standard Warranty Period:

- for Products in "back-up" service
 - o 30 months from the date the Product leaves the plant, **extended to 42 months for KD series**
 - o 24 months from the Product's commissioning date, **extended to 36 months for KD series**
 - o 1,000 running hours

The warranty expires when one of the above conditions is met.

- for Products in "continuous" service (continuous supply of electricity, either in the absence of any normal electricity grid or to complement the grid),
 - o 18 months from the date the Product leaves the plant, **extended to 30 months for KD series**
 - o 12 months from the Product's commissioning date, **extended to 24 months for KD series**
 - o 2,500 running hours, **extended to 8700 running hours for KD series**

The warranty expires when one of the above conditions is met.

For more details regarding conditions of application and scope of the warranty please refer to our General "terms & conditions of sales".