



Industrial Diesel Generator Set – B165

50 Hz



RATINGS 400 V - 50 Hz		
Standby	kVA	165,00
	kWe	132,00
Prime	kVA	150,00
	kWe	120,00

GENERAL SPECIFICATIONS

Engine brand	BAUDOUIIN
Alternator commercial brand	KOHLER
Voltage (V)	400/230
Standard Control Panel	APM303
Consumption @ 100% load ESP (L/h) *	35
Consumption @ 100% load PRP (L/h) *	31
Emission level	Fuel consumption optimization
Type of Cooling	Radiator
Performance class	G2

GENERATOR SETS RATINGS

B165	Voltage	PH	Hz	Standby Rating			Prime Rating	
				kWe	kVA	Amps	kWe	kVA
	400/230	3	50	132,00	165,00	238	120,00	150,00
	415/240	3	50	0,00	0,00	0		
	380/220	3	50	0,00	0,00	0		

DIMENSIONS COMPACT VERSION

Length (mm)	2497
Width (mm)	1103
Height (mm)	1434
Tank capacity (L)	334,00
Dry weight (kg)	1513,00

DIMENSIONS SOUNDPROOFED VERSION

Type soundproofing	M139-B
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Benefits & features

KOHLER premium quality

- KOHLER 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

KOHLER premium performances

Engines

- High reliability enhanced through a simple design for optimal functional performances
- High performances turbochargers providing high engine performances under all loads
- Easy operation and maintenance

Alternator

- Provide industry leading motor starting capability
- Excitation system to permit sustained overcurrent > 270% In, during 5 sec
- Built with a class H insulation and IP23

Cooling

- A compact and complete solution using a mechanical radiator fan
- High temperature and altitude product capacity available

Control Panel

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; Fuel density at 0.85 kg/L.

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.



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

KOHLER worldwide support

- A standard two-year or 1000-hours limited warranty for standby applications.
- A standard one-year or 2500 hours limited warranty for prime power applications.
- A worldwide product support

Length (mm)	3590
Width (mm)	1145
Height (mm)	1899
Tank capacity (L)	334,00
Dry weight (kg)	2139,00
Acoustic pressure level @1m in dB(A) 50Hz (75% PRP)	78
Acoustic pressure level @7m in dB(A) 50Hz (75% PRP)	68

* Volumetric Fuel consumption is up to 4% higher when using HVO than Diesel Fuel

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Engine

General

Engine brand	BAUDOQUIN
Engine ref.	6M11G165_5 *
Air inlet system	Turbo
Fuel	Diesel Fuel/HVO
Emission level	Fuel consumption optimization
Cylinder configuration	L
Number of cylinders	6
Displacement (l)	6,75
Bore (mm) * Stroke (mm)	105,00 * 130,0
Compression ratio	18 : 1
Speed 50Hz (RPM)	1500
Maximum stand-by power at rated RPM (kW)	152,0
Piston type & material	Forged Steel
Charge Air coolant	Air/Air
Frequency regulation, steady state (%)	+/- 0.5%
Injection Type	Direct
Governor type	Electronic
Air cleaner type, models	Dry

Fuel system

Maximum fuel pump flow (l/h)	92,0
Fuel Inlet Minimum recommended size (mm)	12,00
Fuel Outlet Minimum recommended size (mm)	12,00
Max head on fuel return line (m fuel)	1,4
Maximum allowed inlet fuel temperature (°C)	50

Consumption with cooling system

Fuel consumption @ ESP Max Power (l/h)	35,6
Fuel consumption @ PRP Max Power (l/h)	32,3
Fuel consumption @ 75% of PRP Power (l/h)	24,3
Fuel consumption @ 50% of PRP Power (l/h)	16,5

Consumption with cooling system

Specific consumption @ ESP Max Power (g/kW.h)	199,3
Specific consumption @ PRP Max Power (g/kW.h)	198,7
Specific consumption @ 75% of PRP Power	199,3

Lubrication System

Oil system capacity including filters (l)	19,00
Min. oil pressure (bar)	1,0
Max. oil pressure (bar)	7,0
Oil sump capacity (l)	18,00
Oil consumption 100% ESP 50Hz (l/h)	0,070

Air Intake system

Max. intake restriction (mm H2O)	612
Combustion air flow (l/s)	152,00

Exhaust system

	PRP	ESP
Exhaust gas flow (L/s)	363,0	400,0
Exhaust gas temperature @ ESP (°C)	550	
Max. exhaust back pressure (mm H2O)	612	

Cooling system

Radiator & Engine capacity (l)	20,00
Fan power 50Hz (kW)	3,90
Fan air flow w/o restriction (m3/s)	5,08
Available restriction on air flow (mm H2O)	20,00
Type of coolant	Gencool
Radiated heat to ambient (kW)	19,1
Coolant capacity HT, engine only (l)	8,0
Max coolant temperature, Shutdown (°C)	105,0
Thermostat begin of opening HT (°C)	76
Thermostat end of opening HT (°C)	90

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(g/kW.h)

Specific consumption @ 50% of PRP Power
(g/kW.h) 202,7

Emissions

Emission PM 50Hz (g/kW.h)	0,0920
Emission CO 50Hz (g/kW.h)	0,620
Emission NOx 50Hz (g/kW.h)	9,980
Emission HC 50Hz (g/kW.h)	0,170

* 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
Kohler Alternator description	KH01192T
Number of pole	4
Number of bearing	Single Bearing
Technology	Brushless
Indication of protection	IP23
Insulation class	H
Number of wires	06
AVR Regulation	Yes
Coupling	Direct
Capacity for maintaining short circuit at 2.7 In for 5 s	Yes

Application data

Overspeed (rpm)	2250
Power factor (Cos Phi)	0,8
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 (%)	<5
Recovery time (Delta U = 20% transient) (ms)	500

Performance datas

Continuous Nominal Rating 40°C (kVA)	150,0
Unbalanced load acceptance ratio (%)	8

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
- 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.

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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KOHLER

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Dimensions compact version

Length (mm) * Width (mm) * Height (mm)	2497 * 1103 * 1434
Dry weight (kg)	1513,00
Tank capacity (L)	334,00



M139-B - Dimensions soundproofed version

Length (mm) * Width (mm) * Height (mm)	3590 * 1145 * 1899
Dry weight (kg)	2139,00
Tank capacity (L)	334,00
Acoustic pressure level @1m in dB(A) 50Hz (75% PRP)	78
Sound power level guaranteed (Lwa) 50Hz (75% PRP)	95
Acoustic pressure level @7m in dB(A) 50Hz (75% PRP)	68



* dimensions and weight without options

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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

STANDARD DELIVERY

All our gensets are fitted with:

- Industrial water-cooled DIESEL engine
- Electric starter & charge alternator
- Standard air filter
- 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
- frame height optimized to allow it to be moved safely by forklift
- enclosure made of new high-quality European steel with enhanced corrosion resistance
- 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 250 kVA ESP
- 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

Excluded from the supply:

- For Baudouin XPRESS products, from 25 to 1500 kVA: oil and antifreeze liquid
- For Baudouin XPRESS products, from 25 to 165 kVA: batteries

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

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- 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%.

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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
 - o 24 months from the Product's commissioning date
 - o 1,000 running hours

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

- for Products in "prime" or "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
 - o 12 months from the Product's commissioning date
 - o 2,500 running hours

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".

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