

SPG2500

Baudouin 20M55 Series · Lean-Burn Gas

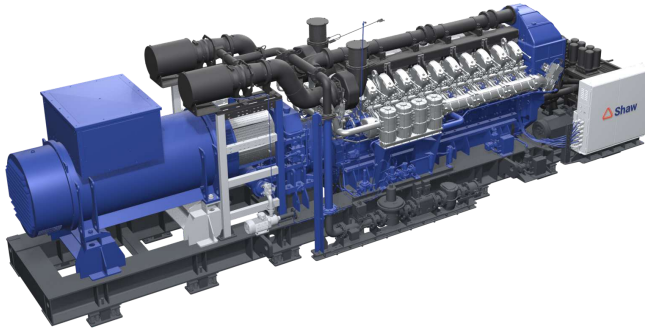


Image for reference only; configuration may vary.

Engine

Configuration	20-cylinder V
Bore × Stroke	180 × 215 mm
Displacement	109 L
Aspiration	Turbocharged & aftercooled
Combustion	Lean-burn spark-ignited
Fuel	Pipeline NG, MN ≥ 85
Engine control	InteliSys 2000 + ECU
BMEP	20.3 bar

2,640
kWe · COP

13.8
kV

60
Hz

1,500
Engine rpm

42.2%
Genset elec. eff.

SPG2500 denotes the 2,500 kW nominal class; this 60 Hz / 13.8 kV configuration delivers 2,640 kWe continuous (COP). Engine operates at 1,500 rpm; a speed-increasing gearbox drives the alternator to produce 60 Hz.

Features

Engine & Combustion

- Baudouin 20M55 Series lean-burn spark-ignited gas engine with active prechamber
- Twin-turbocharged and aftercooled for high power density at 20.3 bar BMEP
- Dual-circuit (HT + LT) liquid cooling with electric-driven pumps
- ECU engine management; pipeline natural gas, methane number ≥ 85

Generator

- LSA 54 XL75 alternator, 96.9% efficiency at 1.0 p.f.
- PMG excitation with AVR-D550 voltage regulation
- Double-bearing construction, 3-phase 4-wire Y, 13.8 kV
- Speed-increasing gearbox couples the 1,500 rpm engine to the 60 Hz alternator

Package & Performance

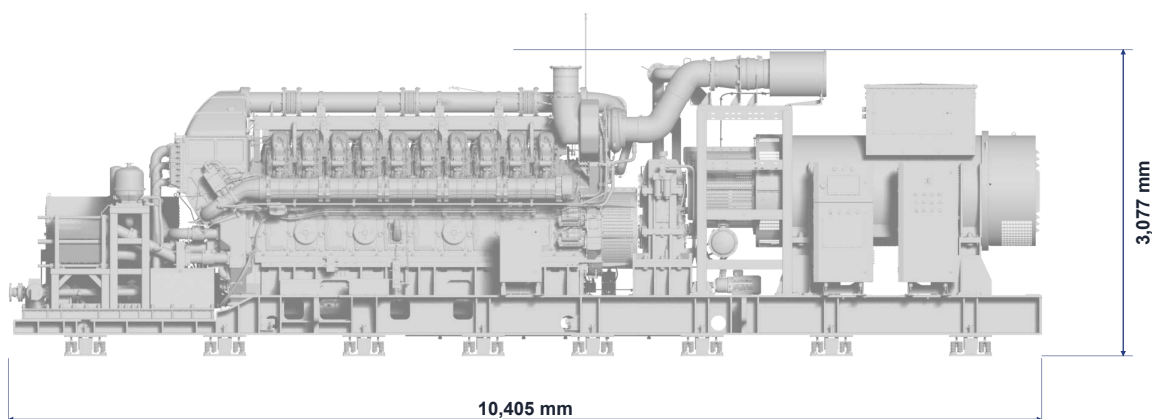
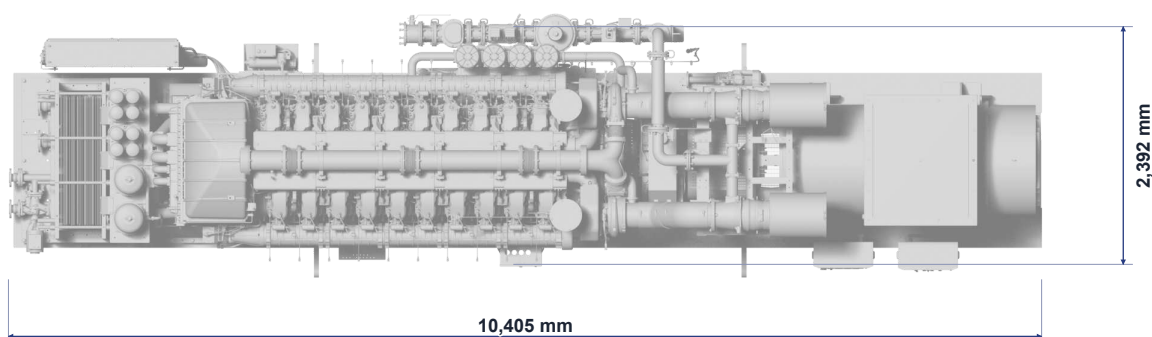
- 2,640 kWe continuous (COP) at 60 Hz / 13.8 kV
- Genset electrical efficiency 42.2% at 100% load
- Two NOx emission options: 500 and 250 mg/Nm³ (ISO 8178)
- Remote radiator cooling rated to 40 °C ambient
- DC 24 V electric start

Performance — Continuous (COP)		Value
Ratings & Efficiency		
Genset power rating (0.8 p.f.)		2,640 kW _e
Engine speed		1,500 rpm
Frequency / Voltage		60 Hz / 13.8 kV
Genset electrical efficiency @ 100%		42.2%
Engine mechanical efficiency @ 100%		44.0%
Recoverable thermal efficiency @ 100%		43.8%
Genset fuel consumption @ 100% (LHV)		8,081 Btu/kWh
Lube oil consumption		0.3 g/kWh
Heat Balance — @ COP 100% load, 40 °C ambient		
Fuel energy input (LHV)		6,303 kW
Total heat dissipation		3,761 kW
Heat rejection to HT (jacket water) circuit		1,649 kW
Heat rejection to LT circuit		284 kW
Heat rejection to exhaust (to 120 °C)		1,112 kW
Radiated heat (engine)		256 kW
Cooling System		
Engine cooling		Liquid, dual circuit (HT + LT)
HT circuit flow / temps (in → out)		126 m ³ /h · 70.7 → 83.3 °C
LT circuit flow / temps (in → out)		49.8 m ³ /h · 38.3 → 43.8 °C
Coolant pumps (HT / LT)		22 kW / 4 kW electric
Intercooler (air-to-water) capacity		284 kW
Max. intake manifold temperature		55 °C
Inlet Air & Exhaust		
Combustion air flow @ 100%		193 m ³ /min
Air intake restriction (clean / dirty)		≤ 20 / ≤ 40 mbar
Exhaust gas volume flow @ 100%		200 m ³ /min
Exhaust temperature after turbo @ 100%		346 °C
Max. exhaust back pressure		≤ 75 mbar
Min. exhaust pipe diameter		≥ 250 mm
Fuel Gas		
Fuel		Pipeline NG, MN ≥ 85
Min. gas inlet pipe diameter		≥ 125 mm
Max. gas inlet temperature		40 °C

Heat balance and engine performance per Baudouin 20M55 Series engine datasheet, measured at COP, 100% load, 40 °C ambient. Genset-level figures per the Baudouin 60 Hz / 13.8 kV genset datasheet.

Emissions — ISO 8178, 5% O ₂ dry	N1 · MCPD 500 mg/Nm ³	N2 · MCPD 250 mg/Nm ³
NOx — mg/Nm³ (g/kWh)		
NOx @ 100% load	437 (1.25)	213 (0.64)
NOx @ 75% load	450 (1.33)	231 (0.70)
NOx @ 50% load	444 (1.40)	226 (0.73)
Other species @ 100% — mg/Nm³ (g/kWh)		
CO	500 (2.31)	535 (2.75)
HC (total)	2,130 (6.26)	2,448 (7.39)
NMHC	354 (0.80)	303 (0.68)
HCHO (formaldehyde)	118 (0.34)	125 (0.37)
Exhaust temperature — °C		
@ 100% load	346	353
@ 75% load	374	376
@ 50% load	412	407
Exhaust gas mass flow — kg/h (wet, ±6%)		
@ 100% load	15,452	16,247
@ 75% load	11,585	12,071
@ 50% load	7,918	8,302
Sound		
		Level
Engine acoustic power level (per ISO 6798)		122 dB(A)
Engine surface sound pressure @ 1 m (per ISO 6798)		102 dB(A)
Sound pressure with enclosure @ 1 m		≤85 dB(A)
Sound pressure with enclosure @ 7 m		≤75 dB(A)

Emissions per Baudouin 20M55 Series PowerKit emission datasheets. Two NOx variants are selectable emission packages on the same genset; the N2 (250 mg/Nm³) low-NOx tune runs leaner, which raises CO and unburned hydrocarbons relative to N1 — a normal lean-burn trade-off.


Side Elevation

Top Plan

For reference only — do not use for installation design.

Weights

Genset dry weight	35,800 kg
Genset — L × W × H	10,405 × 2,392 × 3,077 mm
Lube oil capacity	780 L

Radiator (Remote)

Dry weight	5,000 kg
Dimensions — L × W × H	7,610 × 2,220 × 2,270 mm
Required airflow / ambient	4,104 m³/min · 40 °C

Codes & Standards

ISO 8528 · ISO 3046 · EN 60034-1 · EN 60204-1. Emissions rated to MCPD (500 / 250 mg/Nm³ NO_x options).

Rating Definition

COP — Continuous Power: output available for an unlimited number of hours per year under constant load, per the Baudouin reference rating basis.