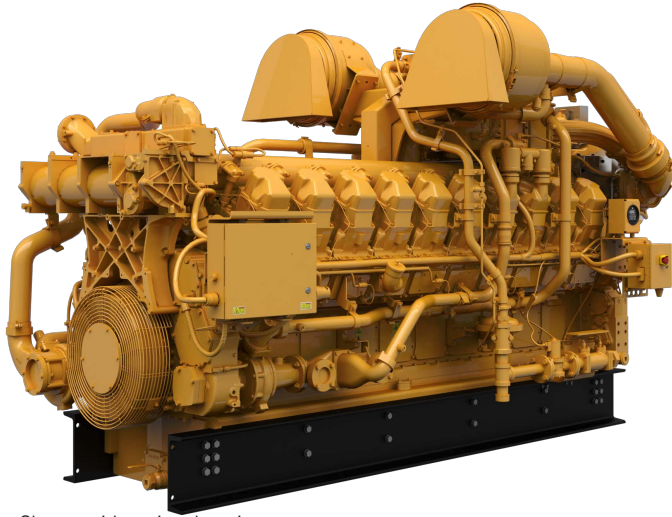


G3520J Gas Engine

1286 kW (1725 bhp) 1400 rpm
0.5 g/bhp-hr NOx (NTE)



Shown with optional equipment

FEATURES AND BENEFITS

Engine Design

- Engine Design Built on G3500 LE proven reliability and durability
- Ability to burn a wide spectrum of gaseous fuels
- Robust diesel strength design prolongs life and lowers owning and operating costs
- Broad operating speed range at lower site air density (high altitude/hot ambient temperatures)
- Higher power density improves fleet management
- Quality engine diagnostics
- Detonation-sensitive timing control for individual cylinders

Ultra Lean Burn technology (ULB)

- ULB technology uses an advanced control system, a better turbo match, improved air and fuel mixing, and a more sophisticated combustion recipe to provide:
 - Lowest engine-out emissions
 - Highest fuel efficiency
 - Improved altitude and speed turndown
 - Stable load acceptance and load rejection

Emissions

- Meets U.S. EPA Spark Ignited Stationary NSPS emissions for 2010 and some non-attainment areas
- Lean air/fuel mixture provides best available emissions and fuel efficiency for engines of this bore size

Advanced Digital Engine Management

- ADEM A3 engine management system integrates speed control, air/fuel ratio control, and ignition/detonation controls into a complete engine management system. ADEM A3 has improved: user interface, display system, shutdown controls, and system diagnostics.

Full Range of Attachments

- Large variety of factory-installed engine attachments reduces packaging time

Cat® Engine Specification

V-20, 4-Stroke-Cycle

Bore	170 mm (6.7 in)	Cooling System Capacity	Total 272.8 L (72 gal)
Stroke	190 mm (7.5 in)	JW 242.6 L (64 gal)	SCAC 30.2 L (8 gal)
Displacement	86 L (5263 cu. in)	Lube Oil System (refill)	541 L (143 gal)
Aspiration	Turbocharged-2 Stage aftercooled	Oil Change Interval	1000 hrs
Digital Engine Management Governor and Protection	Electronic (ADEM™ A3)	Rotation (from flywheel end)	Counterclockwise
Combustion	Lean Burn	Flywheel	SAE No.21
		Flywheel Housing	SAE No.00
		Flywheel Teeth	183

Testing

- Every engine is full-load tested to ensure proper engine performance.

Gas Engine Rating Pro

- GERP is a PC-based program designed to provide site performance capabilities for Cat® natural gas engines for the gas compression industry. GERP provides engine data for your site's altitude, ambient temperature, fuel, engine coolant heat rejection, performance data, installation drawings, spec sheets, and pump curves.

Product Support Offered Through Global Cat Dealer Network

- More than 2,200 dealer outlets
- Cat factory-trained dealer technicians service every aspect of your petroleum engine
- Cat parts and labor warranty
- Preventive maintenance agreements available for repair before-failure options
- S•O•SSM program matches your oil and coolant samples against Caterpillar set standards to determine:
 - Internal engine component condition
 - Presence of unwanted fluid
 - Presence of combustion by-products
 - Site-specific oil change interval

Web Site

For all your Oil & Gas power requirements, visit www.cat.com/oilandgas

LET'S DO THE WORK.™



Air Inlet System

Axial flow air cleaners
Single element canister type with service indicator

Cooling System

Two-stage charge air cooling:
First stage — JW + OC + 1st stage AC
Second stage — 2nd stage AC
Jacket water and aftercooler thermostats

Exhaust System

Water-cooled exhaust manifolds
Dry turbocharger housings
Water-cooled exhaust elbow

Flywheels and Housings

SAE No. 21 flywheel
SAE No. 00 flywheel housing
SAE standard rotation

Fuel System

7-40 psig gas supply
Electronic fuel metering valve
Gas pressure regulator
Gas shutoff valve

Instrumentation

Remote-mounted Advisor control panel
Product Link cellular radio

Mounting

Rails

Lubrication System

Crankcase breather - top mounted
Oil cooler
Oil filter - RH
Oil pan, capacity 143 gal
Oil sampling valve
Turbo oil accumulator

Power Take-Offs

Front housing, two sided
Front lower LH accessory drive

General

Paint — Cat yellow
Crankshaft vibration damper and guard

OPTIONAL EQUIPMENT

Air Inlet System

Rain shield
Round air inlet adapters

Charging System

CSA alternator (24V,65A)

Cooling System

Jacket water inlet flange-hose connection

Exhaust System

Flexible fittings
Elbow
Flanges

Fuel System

Fuel filter

Instrumentation

LAN adapter
15',40',90',140' Product Link extension harness
20',30',50',100' interconnect harness

Lubrication System

Lubricating oil
Oil bypass filter
Oil pan drain
Air prelube pump

Power Take-Offs

Front stub shaft
Crankshaft pulley

Starting System

Air pressure regulator
90 psi starter
150 psi starter
Jacket water heater

General

Special paint
Crankshaft vibration double damper
Explosion relief valves

EU Certification

EEC DOI certification

Torsional Vibration Analysis

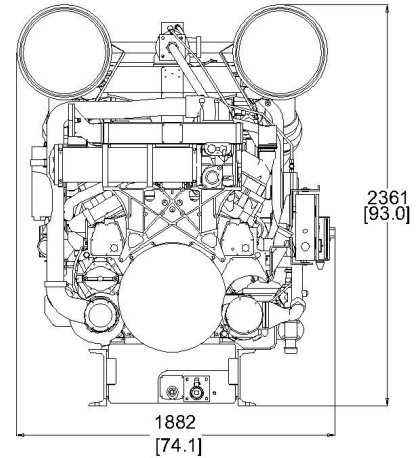
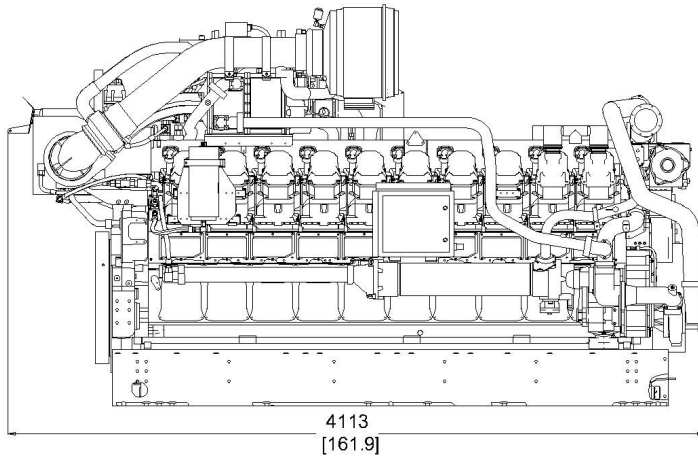
Performance Number		EM2413-02
Rating	g/bhp-hr	0.5 g NOx NTE
Engine Power	bkW (bhp)	1286 (1725)
Engine Speed	rpm	1400
Max Altitude @ Rated Torque and 38°C (100°F)	m (ft)	830 (2723)
Speed Turndown @ Max Altitude, Rated Torque, and 38°C (100°F)	%	35
Temperature		
JW	°C (°F)	99 (210)
SCAC	°C (°F)	54 (130)
Emissions (NTE)*		
NOx	g/bkW-hr (g/bhp-hr)	0.67 (0.5)
CO	g/bkW-hr (g/bhp-hr)	2.98 (2.22)
CO ₂	g/bkW-hr (g/bhp-hr)	629 (469)
VOC**	g/bkW-hr (g/bhp-hr)	0.60 (0.45)
Fuel Consumption ***	MJ/bkW-hr (Btu/bhp-hr)	10.24 (7241)
Heat Balance		
Heat Rejection to Jacket Water	bkW (Btu/min)	731 (41598)
Heat Rejection to Oil Cooler	bkW (Btu/min)	102 (5779)
Heat Rejection to Aftercooler		
Stage 1 (JW)	bkW (Btu/min)	196 (11155)
Stage 2 (SCAC)	bkW (Btu/min)	110 (6263)
Heat Rejection to Exhaust LHV To 25°C (77°F)	bkW (Btu/min)	1179 (67032)
Heat Rejection to Atmosphere	bkW (Btu/min)	112 (6376)
Exhaust System		
Exhaust Gas Flow Rate	N*m ³ /min (scfm)	292.5 (10329)
Exhaust Stack Temperature	°C (°F)	469 (877)
Intake System		
Air Inlet Flow Rate	N*m ³ /min (scfm)	109 (3839)
Gas Pressure	kPag (psig)	48-276 (7-40)

All technical data is based on 100% load and speed

* listed as not to exceed

** Volatile organic compounds as defined in U.S. EPA 40 CFR 60, subpart JJJJ

*** ISO 3046/1



Note: General configuration not to be used for installation

Dimensions		
Length	4113 mm	161.9 in
Width	1882 mm	74.1 in
Height	2361 mm	93.0 in
Weight (wet)	10,785 kg	23,776 lb

Rating Definitions and Conditions

Engine performance is obtained in accordance with SAE J1995, ISO3046/1, BS5514/1, and DIN6271/1 standards.

Conditions: Power for gas engines is based on fuel having an LHV of 33.74 kJ/L (905 Btu/cu ft) at 101 kPa (29.91 in Hg) and 15°C (59°F). Fuel rate is based on a cubic meter at 100 kPa (29.61 in Hg) and 15.6°C (60.1°F). Air flow is based on a cubic foot at 100 kPa (29.61 in Hg) and 25°C (77°F). Exhaust flow is based on a cubic foot at 100 kPa (29.61 in Hg) and stack temperature.

To find your nearest dealer, please visit: www.cat.com

Subject to change without notice.
LEHW0320-02

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