

Shown with  
Optional Equipment

### CAT® ENGINE SPECIFICATIONS

#### In-line 6, 4-Stroke-Cycle

Bore	121 mm (4.8 in.)
Stroke	152 mm (6.0 in.)
Displacement	10.5 L (638 cu. in.)
Aspiration	Naturally Aspirated or Turbocharged-Aftercooled
Governor and Protection	Hydra-mechanical
Combustion	Standard
Engine Weight, net dry (approx)	948 kg (2090 lb)
Power Density	7.8 kg/kW (12.7 lb/bhp)
Power per Displacement	15.7 bhp/L
Total Cooling System Capacity	
Jacket Water	20.0 L (5.3 gal)
Lube Oil System (refill)	45.1 L (11.9 gal)
Oil Change Interval	750 hours
Rotation (from flywheel end)	Counterclockwise
Flywheel and Flywheel Housing	SAE No. 1
Flywheel Teeth	156

## FEATURES

### Engine Design

- 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

### Full Range of Attachments

Large variety of factory-installed engine attachments reduces packaging time

### 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•S<sup>SM</sup> program matches your oil and coolant samples against Caterpillar set standards to determine:

- Internal engine component condition
- Presence of unwanted fluids
- Presence of combustion by-products
- Site-specific oil change interval

### Over 80 Years of Engine Manufacturing Experience

Over 60 years of natural gas engine production

Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable products.

- Cast engine blocks, heads, cylinder liners, and flywheel housings
- Machine critical components
- Assemble complete engine

### Web Site

For all your petroleum power requirements, visit [www.catoilandgas.cat.com](http://www.catoilandgas.cat.com).

**STANDARD EQUIPMENT**

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**Air Inlet System**

Air cleaner  
Air cleaner rain cap  
Service indicator

**Control System**

Hydra-mechanical governor

**Cooling System**

Thermostats and housing  
Jacket water pump  
Aftercooler water pump  
Aftercooler core

**Exhaust System**

Watercooled exhaust manifolds  
Dry exhaust elbow

**Flywheels & Flywheel Housings**

SAE No. 1 flywheel  
SAE No. 1 flywheel housing  
SAE standard rotation

**Fuel System**

Gas pressure regulator  
Natural gas carburetor

**Ignition System**

Altronic V ignition system

**Instrumentation**

Service meter

**Lube System**

Crankcase breather — top mounted  
Oil cooler  
Oil filter  
Oil pan — full sump  
Oil filler and dipstick

**Mounting System**

Engine supports

**Protection System**

Shutoffs

**General**

Paint — Cat yellow  
Crankshaft vibration damper and pulley  
Lifting eyes

**OPTIONAL EQUIPMENT**

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**Charging System**

Battery chargers  
Charging alternators  
Ammeter gauge  
Ammeter gauge and wiring

**Control System**

PSG Woodward governor  
Vernier and positive locking control

**Cooling System**

ATAAC conversion  
Aftercooler group  
Expansion tank  
Heat exchanger and expansion tank  
Radiator  
Blower fan for customer supplied radiators  
Suction fan for customer supplied radiators  
Fan drives for customer supplied radiators  
Fan adapter for customer supplied radiators  
Belt tightener

**Exhaust System**

Flexible fittings  
Elbows  
Flanges  
Pipes  
Rain caps  
Mufflers

**Fuel System**

Low pressure gas conversion  
Fuel filter

**Ignition System**

Altronic III  
CSA shielded ignition  
Wiring harness  
Dual timing

**Instrumentation**

Gauges and instrument panels

**Lube System**

Lubricating oil

**Mounting System**

Vibration isolators

**Power Take-Offs**

Auxiliary drive pulleys and auxiliary pump  
Enclosed clutch and clutch support  
Flywheel stub shaft  
Front stub shaft

**Protection System**

Mechanical shutoff  
Gas valves

**Starting System**

Air starting motor  
Air pressure regulator  
Air silencer  
Electric starting motors with start switch installed/  
shipped loose  
Starting aids  
Battery sets

**General**

Tool set

**TECHNICAL DATA**
**G3306 Gas Petroleum Engine — 1800 rpm**

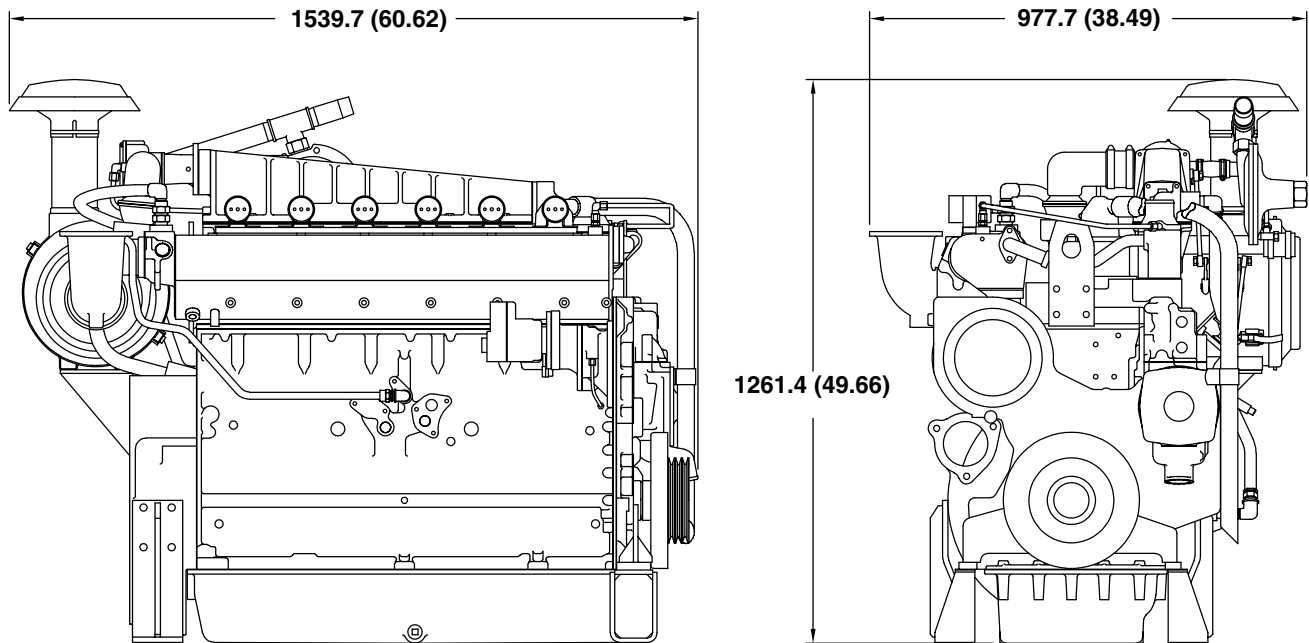
		TM9278-06	DM5062-05	DM5779-01	DM5211-06	TM9268-06
<b>Engine Power</b>						
@ 100% Load	bkW (bhp)	151 (203)	151 (203)	157 (211)	108 (145)	164 (220)
@ 75% Load	bkW (bhp)	114 (152)	114 (152)	118 (158)	81 (109)	123 (165)
<b>Engine Speed</b>						
Max Altitude @ Rated Torque and 38°C (100°F)	rpm	1800	1800	1800	1800	1800
Speed Turndown @ Max Altitude, Rated Torque, and 38°C (100°F)	m (ft)	0	0	0	0	0
	%	25	22	25	44.4	22
<b>SCAC Temperature</b>						
	°C (°F)	54 (130)	54 (130)	32 (90)	N/A	32 (90)
<b>Emissions*</b>						
NOx	g/bkW-hr (g/bhp-hr)	37.16 (27.71)	30.52 (22.76)	36.91 (27.52)	32.34 (24.11)	30.9 (23.07)
CO	g/bkW-hr (g/bhp-hr)	2.01 (1.5)	1.7 (1.28)	2 (1.52)	1.9 (1.4)	2 (1.6)
CO <sub>2</sub>	g/bkW-hr (g/bhp-hr)	691 (515)	665 (496)	677 (505)	660 (492)	652 (486)
VOC**	g/bkW-hr (g/bhp-hr)	0.15 (0.11)	0.15 (0.11)	0.15 (0.11)	0.21 (0.16)	0.16 (0.12)
<b>Fuel Consumption***</b>						
@ 100% Load	MJ/bkW-hr (Btu/bhp-hr)	11.04 (7802)	10.66 (7532)	10.89 (7694)	10.57 (7471)	10.46 (7396)
@ 75% Load	MJ/bkW-hr (Btu/bhp-hr)	11.85 (8374)	11.39 (8053)	11.67 (8249)	11.3 (7987)	11.34 (8015)
<b>Heat Balance</b>						
Heat Rejection to Jacket Water						
@ 100% Load	bkW (Btu/min)	150 (8557)	140 (7935)	143 (8133)	99.4 (5652)	142 (8095)
@ 75% Load	bkW (Btu/min)	134 (7617)	125 (7088)	127 (7245)	87.3 (4964)	130 (7387)
Heat Rejection to Aftercooler						
@ 100% Load	bkW (Btu/min)	9.78 (557)	9.45 (538)	14.9 (846)	—	15.1 (857)
@ 75% Load	bkW (Btu/min)	4.44 (252)	4.04 (230)	8.3 (475)	—	8.5 (482)
Heat Rejection to Exhaust (LHV to 25°C)						
@ 100% Load	bkW (Btu/min)	114 (6509)	111 (6320)	123 (6976)	84 (4775)	117 (6679)
@ 75% Load	bkW (Btu/min)	89 (5065)	86 (4873)	96 (5479)	64.1 (3644)	93 (5289)
<b>Exhaust System</b>						
Exhaust Gas Flow Rate						
@ 100% Load	m <sup>3</sup> /min (cfm)	27.5 (973)	26.8 (947)	29 (1026)	19.7 (697)	28.2 (997)
@ 75% Load	m <sup>3</sup> /min (cfm)	21.8 (769)	20.8 (733)	23.1 (815)	15.4 (545)	22.3 (791)
Exhaust Stack Temp.						
@ 100% Load	°C (°F)	540 (1004)	535 (996)	561 (1041)	560 (1040)	538 (1000)
@ 75% Load	°C (°F)	522 (972)	530 (985)	548 (1018)	534 (993)	536 (996)
<b>Intake System</b>						
Air Inlet Flow Rate						
@ 100% Load	m <sup>3</sup> /min (scfm)	9 (320)	8.9 (314)	9.3 (330)	6.4 (225)	9.3 (329)
@ 75% Load	m <sup>3</sup> /min (scfm)	7.3 (259)	6.9 (244)	7.5 (266)	5.1 (181)	7.4 (261)
<b>Gas Pressure</b>						
	kPag (psig)	83-172 (12-24.9)	83-172 (12-24.9)	83-172 (12-24.9)	10.34-34.47 (1.5-5)	83-172 (12-24.9)

\*at 100% load and speed, all values are listed as not to exceed

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

\*\*\*ISO 3046/1

### GAS PETROLEUM ENGINE



#### PACKAGE DIMENSIONS

Length	mm (in.)	1539.7 (60.62)
Width	mm (in.)	977.7 (38.49)
Height	mm (in.)	1261.4 (49.66)
Shipping Weight	kg (lb)	948 (2,090)

**Note:** General configuration not to be used for installation. See general dimension drawings for detail.

Dimensions are in mm (inches).

### RATING DEFINITIONS AND CONDITIONS

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

Transient response data is acquired from an engine/generator combination at normal operating temperature and in accordance with ISO3046/1 standard ambient conditions. Also in accordance with SAE J1995, BS5514/1, and DIN6271/1 standard reference conditions.

**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.

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

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