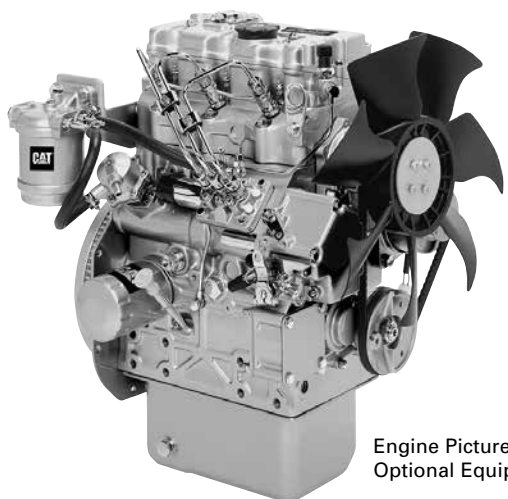




## Industrial Engine

# C1.1

9.9-21 bkW/13.3-28.2 bhp @ 2200-3400 rpm



Engine Pictured with  
Optional Equipment

### CAT® ENGINE SPECIFICATIONS

#### I-3, 4-Stroke-Cycle Diesel

Bore .....	77 mm (3.03 in)
Stroke .....	81 mm (3.19 in)
Displacement .....	1.13 L (69.0 in <sup>3</sup> )
Aspiration .....	Naturally Aspirated
Compression Ratio .....	23:1
Combustion System .....	Indirect injection
Rotation (from flywheel end) .....	Counterclockwise
Capacity for Liquids	
Cooling System	
(engine only) .....	1.9 L (2.0 U.S. qts)
Lube Oil System (refill) .....	3.4-4.4 L (3.6-4.6 U.S. qts)
Engine Weight, Net Dry (approximate)	
with standard equipment .....	87.0 kg (191.0 lbs)

### FEATURES

#### Emissions

Ratings 9.9-18.4 bkW (13.3-24.7 bhp) meet U.S. EPA Tier 4 Final emission standards. Additional ratings are available for Europe and, depending on applicable emission standards, may be introduced in other regulated areas. Nonroad engines less than 19 kW (25 hp) are not currently subject to EU emission standards.

#### Reliable, Quiet, and Durable Power

World-class manufacturing capability and processes coupled with proven core engine designs assure reliability, quiet operation, and many hours of productive life.

#### High Performance

Delivers impressive performance throughout a wide speed range while maintaining low operating costs.

#### Fuel Efficiency

Fuel consumption optimized to match operating cycles of a wide range of equipment and applications.

#### Broad Application Range

Industry leading range of factory configurable ratings and options for agricultural, materials-handling, construction, mining, aircraft ground support, and other industrial applications.

#### Package Size

Ultra-compact package size ensures ease of installation as well as exceptional power density.

#### Low-Cost Maintenance

Single-side servicing improves ease of maintenance and simplifies the servicing routine. Service intervals at 500 hours are standard.

#### Testing

Every Cat® engine is quality tested to ensure proper engine performance.

#### World-class Product Support Offered Through Global Cat Dealer Network

- Scheduled maintenance
- Customer Support Agreements (CSA)
- Caterpillar Extended Service Coverage (ESC)
- Superior dealer service network
- Extended dealer service network through the Cat Industrial Service Distributor (ISD) program

### STANDARD EQUIPMENT

#### Air Inlet

Inlet manifold with choice of inlets

#### Control System

Alternator 12 volt 15 amp, starter motor 12 volt, cold start capability to -20° C (-4° F)

#### Cooling System

Belt-driven coolant pump, coolant temperature switch, choice of cooling fans

#### Flywheel and Flywheel Housing

SAE No. 6 1/2 flywheel, choice of SAE No. 5 or standard backplate flywheel housing

#### Fuel System

Fuel injection pump, spin-on fuel filter, Electronic Shut-off Solenoid (ESOS)

#### Lube System

Lube oil filter, lube oil pressure switch, lube oil sump

#### Power Take Off

Provision for PTO

#### General

Cast iron engine block and cylinder head, cast iron exhaust manifold — side outlet

**Web Site: For additional information on all your power requirements, visit [www.cat-industrial.com](http://www.cat-industrial.com).**

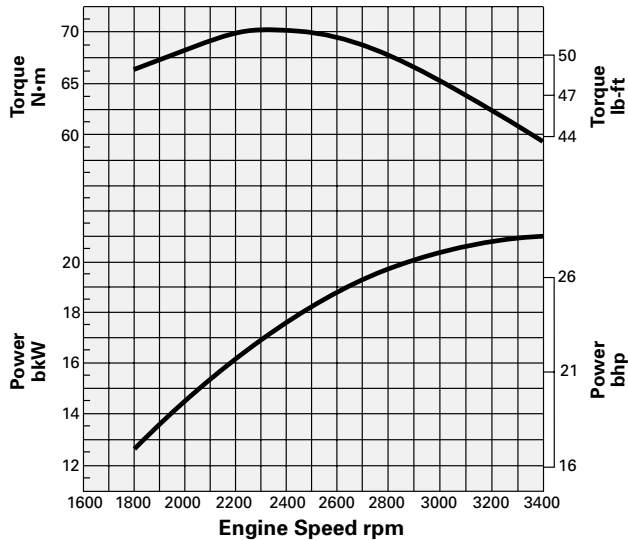


## Industrial Engine

**C1.1****9.9-21 bkW/13.3-28.2 bhp @ 2200-3400 rpm**

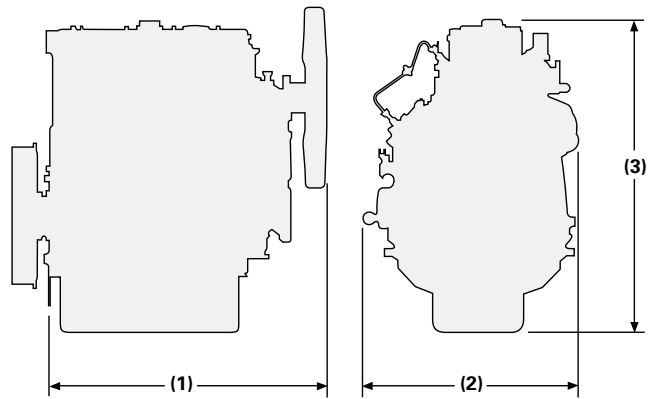
### PERFORMANCE DATA

Naturally Aspirated — 3400 rpm



Speed rpm	Power bkW	Torque N·m	Power bhp	Torque lb-ft
3400	21	59	28.2	43.5

### DIMENSIONS



(1) Length	491 mm (19.33 in)
(2) Width	400 mm (15.74 in)
(3) Height	576 mm (22.67 in)

**Note:** Dimensions depend on final specifications.

### RATING DEFINITIONS AND CONDITIONS

**IND-C (Intermittent)** is the horsepower and speed capability of the engine where maximum power and/or speed are cyclic (time at full load not to exceed 50%).

Additional ratings are available for specific customer requirements. Consult your Cat dealer.

**Rating Conditions for Diesel Engines — up to 6.6 liter** are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in Hg), with a vapor pressure of 1 kPa (.295 in Hg), and 25°C (77°F). Performance is measured using fuel to specification EPA 2D 89.330-96 with a density of 0.845-0.850 kg/L @ 15°C (59°F) and fuel inlet temperature 40°C (104°F).

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, "Caterpillar Yellow" and the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.