



C7 ACERT™ Petroleum Engine

172/205 kW
(230/275 bhp)
2200 rpm

HazPak Solutions



Image shown may not reflect actual engine configuration

CAT® PACKAGE SPECIFICATIONS

I-6, 4-Stroke-Cycle Diesel

Emissions..... EPA and CARB Nonroad Tier 3,
EU Stage IIIA, EPA Marine Tier 2, IMO II
Peak Torque at Speed..... 925 N•m (682.24 lb-ft)
@ 1650 rpm
Bore..... 110 mm (4.3 in)
Stroke..... 127 mm (5 in)
Displacement..... 7.2 L (442 in³)
Aspiration..... Turbocharged-Aftercooled
Governor and Protection..... Electronic ADEM™ A4
Weight, Net Dry (approx)..... 2045 kg (4508 lbs)
Capacity for Liquids
Lube System (refill)..... 34 L (36 U.S. qts)
Cooling System..... 74 L (78.2 U.S. qts)
Oil Change Interval..... 250 hours
Rotation (from flywheel end)..... Counterclockwise
Flywheel and Flywheel Housing..... SAE 1, 2, or 3
Flywheel Teeth .. 156 (SAE 1), 134 (SAE 2), 126 (SAE 3)

FEATURES

Improving Workforce Efficiency

- Standard factory certifications improve worksite safety
 - ATEX Directive (94/9/EC) Group II
 - Category 3G (Zone 2) with Mechanical Gas Group IIA, Electrical IIC and Temperature Class T3.
- Certified flameproof intake system to prevent any internal explosions from propagating to external atmosphere
- Industry-standard ADEM A4 control system improves operator interface

Making Your Investment Work Harder

- Factory-certified package for hazardous location applications allow simplified rig certification for OEM
- Maintains high power over broad range of operating speeds, improving performance
- Steady torque rise provides superior load acceptance
- Optimized ambient and altitude capabilities for operating flexibility

Committed to Sustainable Development

- Meets today's emission standards for well service applications
 - IMO II, Marine Tier 2
 - EPA Nonroad Tier 3, EU Stage IIIA

Driving Down Total Cost of Ownership

- Improved serviceability versus the competition
- Industry-leading component overhaul life
- Rugged Caterpillar testing on all components improves uptime

Product Support Offered Through Global Cat® Dealer Network

- More than 2,200 dealer outlets
- Caterpillar factory-trained dealer technicians service every aspect of your petroleum package
- Caterpillar parts and labor warranty

Web Site

For all your petroleum power requirements, visit www.catoilandgasinfo.com.



HAZPAK SOLUTION

Factory-supported turnkey solutions

- Factory-matched exhaust and inlet systems
- Integrated Cat control system
- Take the risk out of specification and procurement of individual parts
- All skin temperatures and exhaust gas < 200°C (T3)
- Certified to maintain T3 skin temperatures for up to 45°C ambient applications

Class-leading safety

- ATEX 94/9/EC
- Machinery Directive 2006/42/EC

Superior corrosion resistance

- Marine grade solder dipped core radiator

Globally supported by Cat dealer network

STANDARD PACKAGE EQUIPMENT

Air Inlet System

Dry-type two-element air filter with restriction indicator, separate circuit aftercooler with ATEX-approved air shutoff valve, inlet flame arrestor

Control System

Electronic engine governor (ADEM A4), electrically controlled air shutoff valve and fuel shutoff cylinder, LH-side remote positive-lock speed control lever, hydra-mechanical governor, pneumatic or hydraulic shutdown control input for air shutoff valve and fuel shut-off cylinder

Cooling System

Cooling package designed for 45°C ambient capability; separate cooling circuit for aftercooler; offshore-capable radiators for jacket water and aftercooler circuits are manufactured using steel fabrications, galvanized solder-dipped cooling elements and all stainless steel nuts and bolts; coolant pipe work in steel with Victaulic connections; water pumps are gear driven, centrifugal; radiator-mounted fan with ATEX-compliant fan drive and guarding; all guards designed, manufactured, and fitted in accordance with the Machinery Directive 2006/42/EC.

Exhaust System

Exhaust gas cooler, plenum, and outlet box assembly; ATEX compliant – designed to limit the exhaust gas and exhaust duct surface temperatures to T3 (200°C); exhaust gas flametraps suitable for Gas Group IIA; designed and tested

in accordance with the recommendations of EN 1834-1; wet and dry exhaust flexibles; ship-loose ATEX-compliant spark arresting muffler

Flywheel and Flywheel Housing

SAE No. 1 cast iron housing, industrial-style flywheel for SAE-1 housing, provides LH starter bore location

Fuel System

Electronic unit injector; upward-angled fuel priming pump, primary filter and water separator; engine-mounted secondary fuel filter

General

Package ambient capability is -10°C to 45°C; mechanical systems are designed for Gas Group IIA; electrical systems are designed for Gas Group IIC; all systems meet temperature class T3 (200°C limit); includes a declaration of conformity for the entire package scope; radiator package, engine, and exhaust system fitted to sub-frame; air filter, fuel/water separator, remote oil filter installed and mounted; earth bonding per standard EN 60079-14

Lube System

Oil cooler, LH oil gauge, remote-mounted oil filters for easy service

Paint

Standard 2-coat acrylic paint system

OPTIONAL EQUIPMENT

Air Compressor

Belt-driven, two-cylinder, single-stage, reciprocating with a rated displacement of 13.2 cfm at 1250 rpm compressor speed; includes two environmental drains

Charging System

24V 35A EX d ATEX compliant alternator for Gas Group IIB, temperature class T3; heavy-duty, brushless. 24V 55Ah EX d e II T4 increased safety deep discharge battery pack with integral junction box and isolator switch.

Control System

- *Basic control panel* – laser cut, chemical etched, and paint filled panel with messenger, throttle, start and stop pushbutton, e-stop mushroom pushbutton, rotary 2-position power switch
- *Throttle knob speed control* – shipped loose if no control panel option selected; ATEX approved 24V operation; twist knob, locking design; 2-turns, low to high speed; CCW rotation to increase engine speed, push in or turn CW to return to low idle.
- *Messenger display* – shipped loose if no control panel option selected; electronic display unit for monitoring key engine operation data and diagnostic information on a full graphic LCD screen; four select buttons to scroll through the engine data and diagnostic screens and navigate through the display configuration menu to change display settings; connection to the engine control module is via the J1939 CAN data link.

- *PCS2 control board* – provides supervisory safety system function and overspeed shutdown control; includes shipped-loose start button, run/stop switch, emergency stop button for integration in customer control panel; switches and sensors for exhaust gas temperature, coolant temperature, oil pressure, and engine speed shutdowns; user configurable alarm and shutdown relay inputs.
- *3GP flametrap elimination system* – provides gas detection, supervisory safety system function, overspeed shutdown control; allows operation without exhaust flame traps to reduce maintenance; includes shipped-loose start button, run/stop switch, emergency stop button for integration with customer panel; provides up to 20 optional inputs and outputs for customer equipment; designed to give automatic shutdown in the event of engine overspeed, high exhaust temperature, high coolant temperature, low oil pressure, detection of hydrocarbon gas; additional I/O pressure and temperature input switches available on request.

Fuel System

Fuel cooler, installed, maintains acceptable fuel temperature when running from day tank

Starting System

Air, electric, and hydraulic starters available

Paint

Offshore 3-coat epoxy paint system, 325 micron thickness

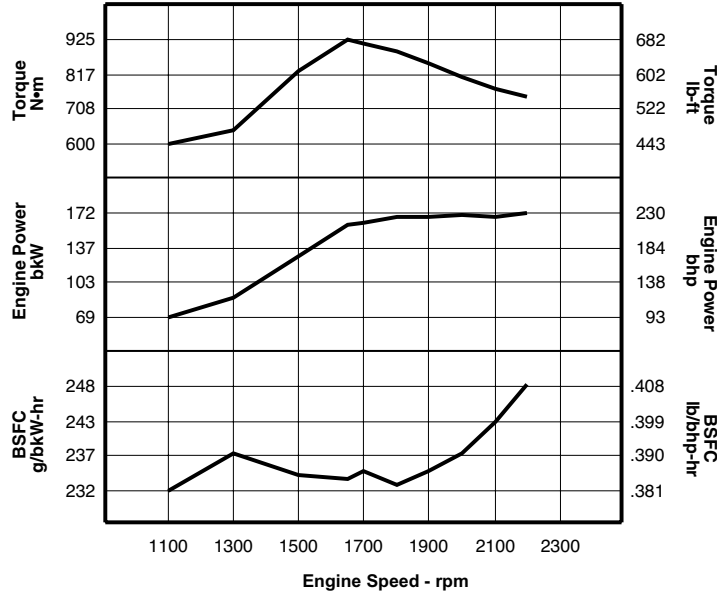


C7 ACERT™ Petroleum Engine

172/205 bkW (230/275 bhp) @ 2200 rpm

PERFORMANCE DATA

Turbocharged-Aftercooled — 2200 rpm
DM9679-01



Heat Rejection Data										
Engine Speed rpm	Engine Power		Rej to JW		Rej to Atmos		Rej to Exh		From Aft Clr	
	bkW	bhp	kW	Btu/min	kW	Btu/min	kW	Btu/min	kW	Btu/min
2200	171.5	230.0	138	7848	29	1655	155	8815	45	2559
2100	169.3	227.0	134	7621	28	1564	149	8474	41	2332
2000	169.6	227.4	133	7564	26	1484	145	8246	38	2144
1900	169.1	226.8	133	7564	25	1399	143	8132	35	1962
1800	167.8	225.0	134	7621	26	1490	141	8019	31	1769
1700	162.0	217.2	129	7336	26	1462	138	7848	27	1558
1650	159.8	214.3	127	7222	26	1501	138	7848	25	1427
1500	129.6	173.8	109	6199	23	1319	112	6369	12	671
1300	87.1	116.8	89	5061	14	785	72	4095	3	159
1100	69.1	92.7	82	4663	3	188	50	2843	1	34

*Other engine ratings are available. Please contact dealer for performance data.

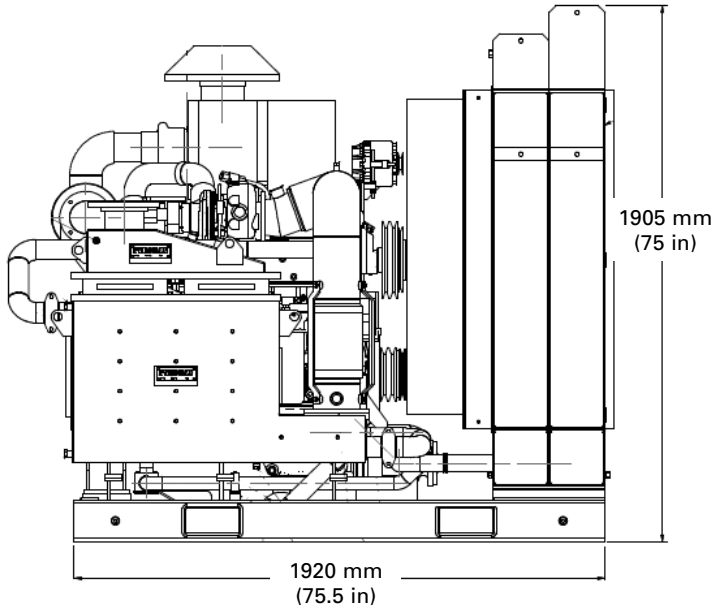


C7 ACERT™ Petroleum Engine

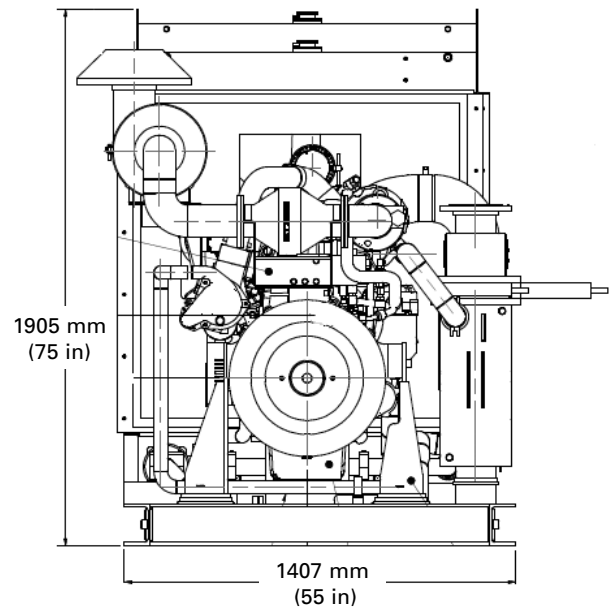
172/205 kW (230/275 bhp) @ 2200 rpm

DIMENSIONS

RIGHT SIDE VIEW



FRONT VIEW



DIMENSIONS*		
Length	mm (in)	1920 (75.5)
Width	mm (in)	1407 (55)
Height	mm (in)	1905 (75)
Shipping Weight	kg (lb)	2045 (4508)

*Maximum dimensions are shown. Dimensions may be less depending on the alternator, fan adapter, and air shutoff selected.

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, ACERT, ADEM, "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.