



3406C Petroleum Engine

365 bkW
(490 bhp)
2100 rpm

HazPak Solutions



Image shown may not reflect
actual engine configuration

CAT® PACKAGE SPECIFICATIONS

I-6, 4-Stroke-Cycle Diesel

| | |
|------------------------------------|-------------------------------------|
| Emissions..... | Non-certified |
| Peak Torque at Speed..... | 2161 N•m (1594 lb-ft) @ 1400 rpm |
| Bore..... | 137 mm (5.4 in) |
| Stroke..... | 165 mm (6.5 in) |
| Displacement..... | 14.6 L (893 in ³) |
| Aspiration..... | Turbocharged-Aftercooled |
| Governor and Protection..... | Hydromechanical |
| Weight, Net Dry (approx)..... | 2940 kg (6481.6 lbs) |
| Capacity for Liquids | |
| Lube System (refill)..... | 37.9 L (40 U.S. qts) |
| Cooling System..... | 72.8 L (79.9 U.S. qts) |
| Oil Change Interval..... | 250 hours |
| Rotation (from flywheel end)..... | Counterclockwise |
| Flywheel and Flywheel Housing..... | SAE 1 |
| Flywheel Teeth..... | 113 |

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
- Non-electrical configuration is also suitable for Class I Division 2 (NEC 500) and Class I Zone 2 (NEC 505) areas but certification and marking do not apply
- Certified flameproof intake system prevents any internal explosions from propagating to atmosphere

Making Your Investment Work Harder

- Factory-certified package for hazardous location applications allows 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

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
- ATEX 94/9/EC
- Machinery safety directive

Superior corrosion resistance

- Marine grade solder dipped core radiator
- Optional 3-coat epoxy marine paint system

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

LH-side remote positive-lock speed control lever, hydromechanical governor, pneumatic or hydraulic shutdown control input for air shutoff valve and fuel shutoff cylinder, mechanical speed and temperature monitoring to provide control of air shutoff valve

Cooling System

Cooling package designed for 45°C ambient capability; single cooling circuit for jacket water, exhaust cooler, and aftercooler; offshore-capable radiator is manufactured using steel fabrications, galvanized solder dipped cooling elements and all stainless steel nuts and bolts; flanged 150 lb RF connections used at cooling system interfaces; coolant pipe work in mild steel with Victaulic connections; water pump is 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; flywheel for SAE-1 housing, pilot bore for 100 mm diameter bearings; provides LH and RH starter bore location

Fuel System

Mechanical fuel injection, fuel priming pump, primary filter and water separator, engine-mounted secondary fuel filter

General

Package ambient capability is -20°C to 45°C designed for Gas Group IIA; 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; 325 micron epoxy paint system, gear-driven two-cylinder air compressor, 12 cfm

Lube System

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

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 65A alternator, NEC 500 Class 1 Division 2 for Gas Groups C&D, 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

- Air or hydraulic shutdown system input options available
- *Basic control panel* – includes start button, run/stop switch, and emergency stop button.
- *PCS2 control board* – provides supervisory safety system functionality and overspeed shutdown control; includes start button, run/stop switch, emergency stop button, mounting locations for throttle control and messenger display, user-configurable alarm and shutdown relay inputs.

- *3GP control panel* – provides gas detection, supervisory safety system functionality, and overspeed shutdown control; allows operation without exhaust flame traps; includes start button, run/stop switch, emergency stop button, mounting locations for throttle control and messenger display; provides control panel for engine with up to 20 inputs and outputs; designed to give automatic shutdown in the event of engine overspeed, high exhaust gas temperature (200°C), high coolant temperature (100°C), low oil pressure, detection of hydrocarbon gas; additional I/O pressure and temp input switches available on request.

Fuel System

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

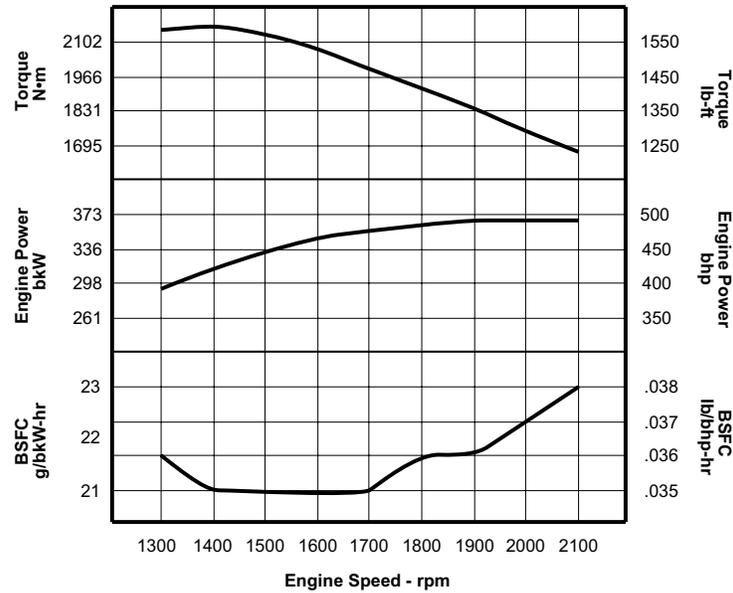
Starting System

Air and hydraulic starters available



PERFORMANCE DATA

Turbocharged-Aftercooled — 2100 rpm
DM2559-00



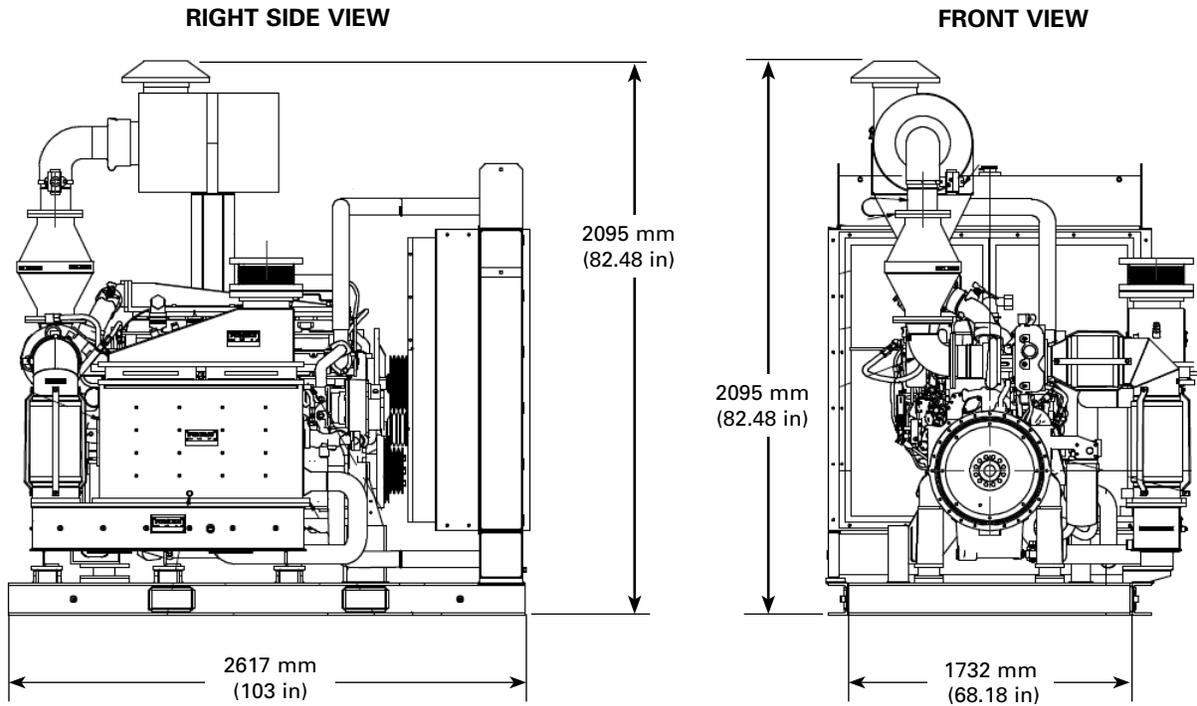
| Heat Rejection Data | | | | | | | | | | |
|---------------------|--------------|-----|-----------|---------|--------------|---------|------------|---------|--------------|---------|
| Engine Speed rpm | Engine Power | | Rej to JW | | Rej to Atmos | | Rej to Exh | | From Aft Clr | |
| | bkW | bhp | kW | Btu/min | kW | Btu/min | kW | Btu/min | kW | Btu/min |
| 2100 | 365.5 | 490 | 355 | 20189 | 46 | 2633 | 299 | 17004 | 63 | 3577 |
| 2000 | 366.5 | 491 | 350 | 19905 | 45 | 2542 | 288 | 16379 | 57 | 3259 |
| 1900 | 365.2 | 490 | 341 | 19393 | 43 | 2440 | 272 | 15469 | 52 | 2940 |
| 1800 | 361.3 | 485 | 332 | 18881 | 41 | 2343 | 258 | 14672 | 46 | 2610 |
| 1700 | 354.8 | 476 | 324 | 18426 | 39 | 2241 | 249 | 14161 | 40 | 2275 |
| 1600 | 347.0 | 465 | 316 | 17971 | 38 | 2138 | 242 | 13763 | 34 | 1934 |
| 1500 | 334.6 | 449 | 306 | 17402 | 36 | 2025 | 234 | 13308 | 28 | 1609 |
| 1400 | 316.8 | 425 | 292 | 16606 | 34 | 1905 | 226 | 12853 | 23 | 1319 |
| 1300 | 292.0 | 392 | 275 | 15639 | 31 | 1780 | 220 | 12511 | 18 | 1052 |

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



3406C
Petroleum Engine
365 bkW (490 bhp) @ 2100 rpm

DIMENSIONS



| DIMENSIONS* | | |
|-----------------|---------|---------------|
| Length | mm (in) | 2617 (103) |
| Width | mm (in) | 1732 (68.18) |
| Height | mm (in) | 2095 (82.48) |
| Shipping Weight | kg (lb) | 2940 (6481.6) |

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

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