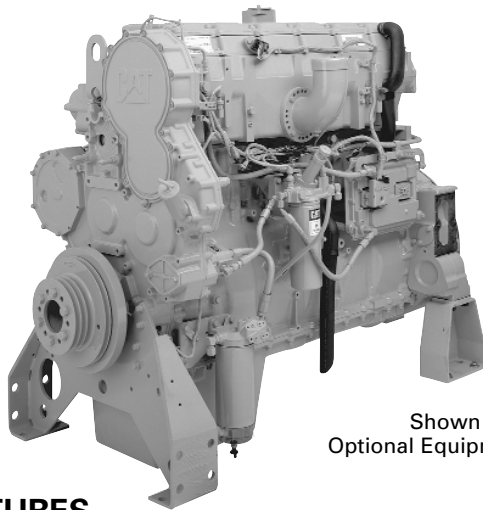




Industrial Engine C-16

373-492 bkW/500-660 bhp
1800-2100 rpm



Shown with
Optional Equipment

CATERPILLAR® ENGINE SPECIFICATIONS

In-Line, 6 Cylinder, 4-Stroke-Cycle Diesel

Bore — mm (in) 140 (5.5)

Stroke — mm (in) 171 (6.75)

Displacement — L (cu in) 15.8 (964)

Aspiration..... Turbocharged for ATAAC¹

Compression Ratio 16.0:1

Rotation (from flywheel end).. Counterclockwise

Capacity for Liquids — L (U.S. Gal)

Cooling System²..... 20.8 (5.5)

Lube Oil System (refill)..... 38.0 (10.0)

Weight, Net Dry (approx) — kg (lb)

with standard equipment..... 1332 (2,937)

¹Air-to-Air Aftercooling

²Engine only. Capacity will vary with radiator size and use of cab heater.

FEATURES

■ EMISSIONS

- Meets Tier 2, Stage II emissions requirements. Tier 2 refers to EPA (U.S.) standards. Stage II refers to European standards.

■ FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested

■ SINGLE-SOURCE SUPPLIER

- Caterpillar:
 - Casts engine blocks, heads, cylinder liners, and flywheel housings
 - Machines critical components
 - Assembles complete engineOwnership of these manufacturing processes enables Caterpillar to produce high quality, dependable product.

- Factory-designed systems built at Caterpillar ISO certified facilities

■ TESTING

- Prototype testing on every model:
 - proves computer design
 - verifies system torsional stability
 - functionality tests every model

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

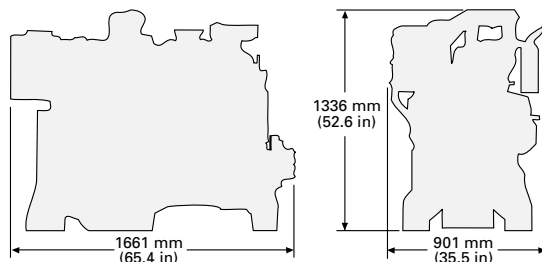
■ UNMATCHED PRODUCT SUPPORT OFFERED THROUGH WORLDWIDE CATERPILLAR DEALER NETWORK

- More than 1,500 dealer outlets
- Caterpillar factory-trained dealer technicians service every aspect of your industrial engine
- 99.7% of parts orders filled within 24 hours — worldwide
- Caterpillar parts and labor warranty
- Preventive maintenance agreements available for “repair before failure” options
- Scheduled Oil Sampling (S•O•SSM) program matches your oil sample against Caterpillar set standards to determine:
 - internal engine component condition
 - presence of unwanted fluids
 - presence of combustion by-products

■ WEB SITE

- For all your industrial power requirements, visit www.cat-industrial.com.

DIMENSIONS



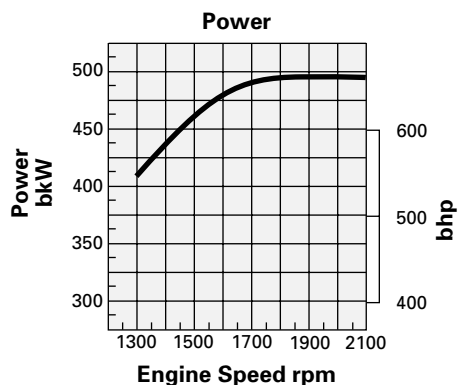
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AVAILABLE STANDARD AND OPTIONAL EQUIPMENT

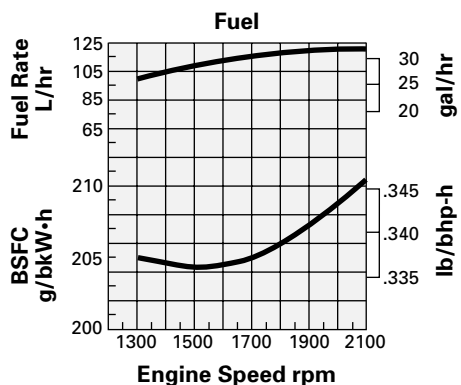
SYSTEM	STANDARD	OPTIONAL
Air Compressor		Air compressors (16 and 27 cfm)
Air Inlet	Turbocharger, mid-mounted Air-to-air aftercooled Air cleaner, regular duty	Air cleaner and lines Heavy-duty air cleaner and muffler
Charging System		Battery charger Charging alternators (12V and 24V)
Control System	ADEM III electronic control Fuel cooled ECM Diagnostics and fault logging Automatic altitude compensation Automatic fuel temperature compensation J1939 (CAN) broadcast only Cat datalink <i>Selectable Programmable Features</i> — Top engine limit — 1800-2100 rpm; power trim — $\pm$ 3% power; torque limiting	Remote speed controls
Cooling System	Thermostats and housing Jacket water pump, gear driven	Belt tightener Coolant level sensor Coolant conditioner Radiators Fan drives Blower and suction fans Vee belts
Exhaust System	Exhaust manifold, dry, front Exhaust elbow, dry	Adapters Rear turbo exhaust manifold
Flywheels and Flywheel Housings	Flywheel, SAE No. 1 Flywheel housing, SAE No. 1 SAE standard rotation	Flywheels, SAE No. 1, No. 0 Flywheel housings, SAE No. 1, No. 0 Flywheel adapter for Allison transmission Transmission adapter and flywheel housing
Fuel System	Electronic unit injector Fuel filter, secondary, LH, 2 micron Fuel transfer pump, front Fuel priming pump, LH Primary fuel filter, LH	Fuel filter, RH Fuel cooler
Instrumentation	Instrument panel, LH — engine oil pressure, fuel pressure gauge, water temperature gauge, engine oil temperature gauge	Instrument panels Gauges Harness, EMS interconnect
Lube System	Crankcase breather Oil cooler, RH Oil filter, RH Oil pan, front sump Oil filler, LH Oil dipstick, LH Oil pump	Oil pans, rear sump Oil pan, front sump, RH gauge Oil filter, LH Oil filler, RH Oil filler, top mounted Remote mounted oil filter Lubrication oil, SAE 10W30
Mounting System	Engine supports	Structural steel base
Power Take-Offs		Hydraulic pump drive Pulleys Rear enclosed clutch (IBF 314, SP 214) Rear clutch support
Shutdown System		Air shutoff (12V and 24-32V)
Starting System		Air starting motors, LH, RH Air pressure regulator and air silencer Electric starting motors (24V) Battery sets (24V), battery cables, and battery rack Ether starting aid Jacket water heater Remote start switch
General	Paint — Caterpillar yellow Vibration damper and pulley Lifting eyes Rear facing customer connector and ECAP connection	Transmission oil cooler Damper guard and flywheel guard Belt guards

PERFORMANCE CURVES AND DATA

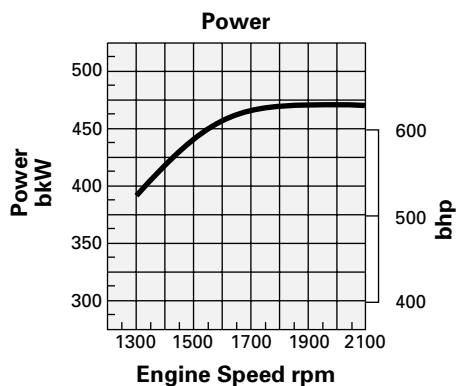
Industrial E Rating — 492 bkW (660 bhp) @ 2100 rpm
DM6380-00



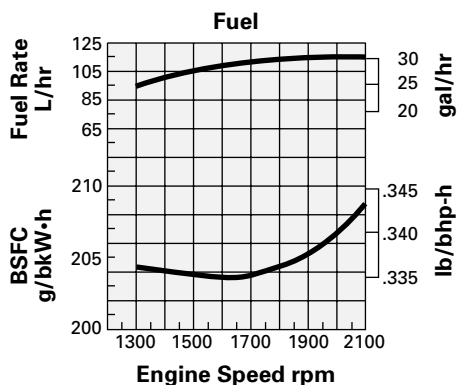
rpm	bkW (bhp)	g/bkW-hr (lb/bhp-hr)	L/hr (gal/hr)
2100	492 (660)	210.6 (.346)	123.5 (32.6)
2000	492 (660)	209.0 (.344)	122.6 (32.4)
1900	492 (660)	207.4 (.341)	121.7 (32.1)
1800	492 (660)	206.0 (.339)	120.8 (31.9)
1700	490 (657)	204.8 (.337)	119.5 (31.6)
1600	479 (642)	204.1 (.336)	116.5 (30.8)
1500	463 (620)	204.2 (.336)	112.6 (29.7)
1400	444 (595)	204.5 (.336)	108.2 (28.6)
1300	408 (547)	204.8 (.337)	99.5 (26.3)



Industrial D Rating — 470 bkW (630 bhp) @ 2100 rpm
DM6379-00

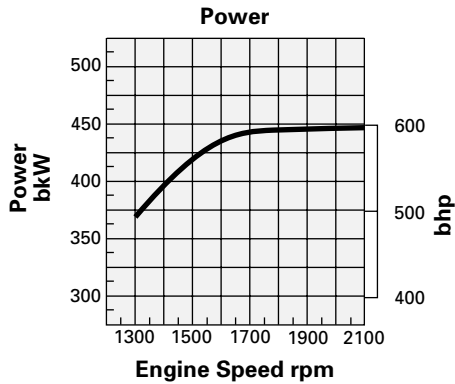


rpm	bkW (bhp)	g/bkW-hr (lb/bhp-hr)	L/hr (gal/hr)
2100	470 (630)	208.7 (.343)	116.9 (30.9)
2000	470 (630)	206.6 (.340)	115.8 (30.6)
1900	470 (630)	204.9 (.337)	114.8 (30.3)
1800	470 (630)	203.7 (.335)	114.1 (30.1)
1700	467 (626)	203.3 (.334)	113.1 (29.9)
1600	457 (612)	203.6 (.335)	110.8 (29.3)
1500	443 (594)	204.0 (.335)	107.6 (28.4)
1400	424 (568)	204.3 (.336)	103.1 (27.2)
1300	389 (521)	204.2 (.336)	94.6 (25.0)

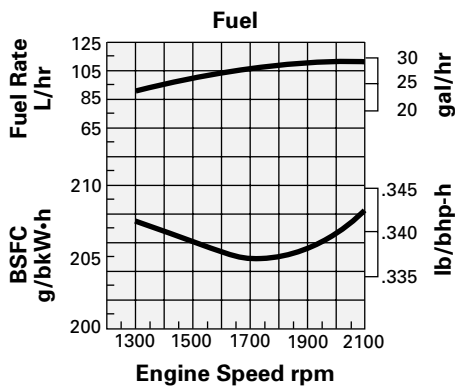


PERFORMANCE CURVES AND DATA

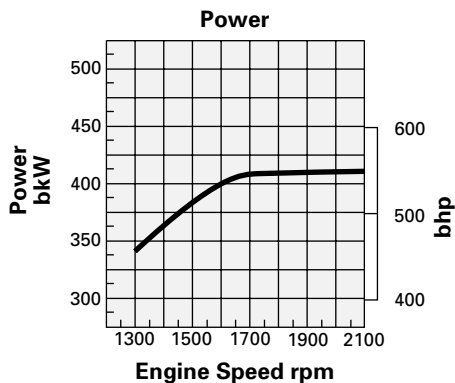
Industrial C (Intermittent) Rating — 448 bkW (600 bhp) @ 2100 rpm
DM6378-00



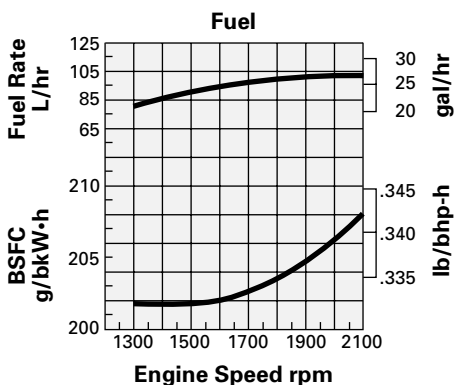
rpm	bkW (bhp)	g/bkW-hr (lb/bhp-hr)	L/hr (gal/hr)
2100	448 (600)	208.1 (.342)	111.0 (29.3)
2000	448 (600)	206.6 (.340)	110.2 (29.1)
1900	448 (600)	205.4 (.338)	109.6 (29.0)
1800	448 (600)	204.6 (.336)	109.2 (28.8)
1700	445 (596)	204.7 (.337)	108.5 (28.7)
1600	435 (583)	205.3 (.338)	106.4 (28.1)
1500	421 (564)	206.0 (.339)	103.3 (27.3)
1400	403 (541)	206.6 (.340)	99.3 (26.2)
1300	370 (496)	207.3 (.341)	91.4 (24.1)



Industrial B Rating — 410 bkW (550 bhp) @ 2100 rpm
DM6377-00

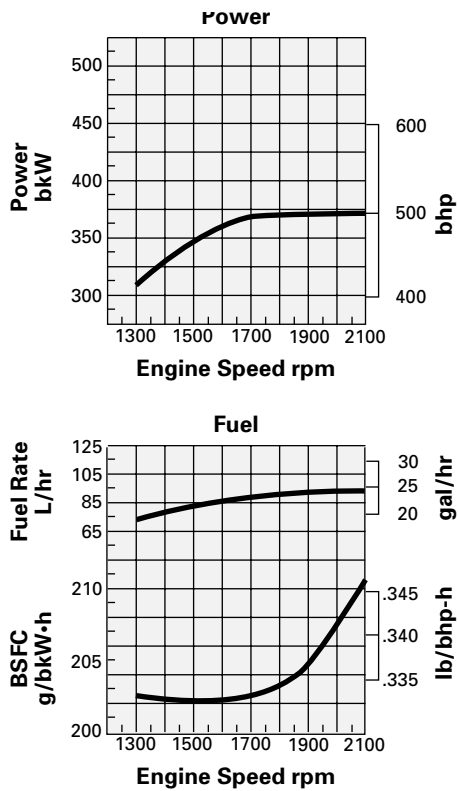


rpm	bkW (bhp)	g/bkW-hr (lb/bhp-hr)	L/hr (gal/hr)
2100	410 (550)	208.0 (.342)	101.7 (26.9)
2000	410 (550)	205.9 (.338)	100.6 (26.6)
1900	410 (550)	204.2 (.336)	99.8 (26.4)
1800	410 (550)	203.2 (.334)	99.3 (26.2)
1700	408 (547)	202.6 (.333)	98.5 (26.0)
1600	399 (535)	202.2 (.332)	96.1 (25.4)
1500	386 (517)	201.8 (.332)	92.8 (24.5)
1400	369 (495)	201.7 (.332)	88.8 (23.5)
1300	339 (454)	201.9 (.332)	81.5 (21.5)



PERFORMANCE CURVES AND DATA

Industrial A (Continuous) Rating — 373 bkW (500 bhp) @ 2100 rpm
DM6376-00



rpm	bkW (bhp)	g/bkW-hr (lb/bhp-hr)	L/hr (gal/hr)
2100	373 (500)	210.4 (.346)	93.6 (24.7)
2000	373 (500)	206.7 (.340)	91.9 (24.3)
1900	373 (500)	204.6 (.336)	91.0 (24.0)
1800	373 (500)	203.4 (.334)	90.4 (23.9)
1700	370 (496)	202.3 (.333)	89.2 (23.6)
1600	362 (485)	201.3 (.331)	86.8 (22.9)
1500	350 (470)	200.5 (.330)	83.7 (22.1)
1400	336 (451)	200.8 (.330)	80.4 (21.2)
1300	308 (413)	202.2 (.332)	74.2 (19.6)

INDUSTRIAL RATINGS AND CONDITIONS

IND-E

For service where maximum power is required for a short time for initial starting or sudden overload. For emergency service where standard power is unavailable. The maximum power and speed capability of the engine can be utilized for a maximum of 15 uninterrupted minutes followed by one hour at IND C power or duration of the emergency. Time at full load is not to exceed five percent of the duty cycle. Typical service examples are: standby centrifugal water pumps, oil field well servicing, crash trucks and gas turbine starters.

IND-D

For service where maximum power is required for periodic overloads. The maximum power and speed capability of the engine can be utilized for a maximum of 30 uninterrupted minutes followed by one hour at IND C. Time at full load is not to exceed 10 percent of the duty cycle. Typical service examples are: offshore cranes, runway snow blowers, water well drills, portable air compressors, and fire pump certification power.

IND-C (INTERMITTENT)

For service where maximum power and/or speed are cyclic. The power and speed capability of the engine can be utilized for one uninterrupted hour followed by one hour of operation at or below IND A. Time at full load is not to exceed 50 percent of the duty cycle. Typical service examples are: agricultural tractors, harvesters and combines, off-highway trucks, fire pump application power, blast hole drills, rock crushers and wood chippers with high torque rise, and oil field hoisting.

IND-B

For service where power and/or speed are cyclic. Time at full load is not to exceed 80 percent of the duty cycle. Typical service examples are: irrigation where normal pump demand is 85 percent of engine power, oil field mechanical pumping/drilling, stationary plant air compressors.

IND-A (CONTINUOUS)

For heavy-duty service where the engine is operated at maximum power and speed up to 100 percent of the time without interruption or load cycling. Time at full load can be up to 100 percent of the duty cycle. Typical service examples are: pumping, ventilation, customer specs.

Engine Performance is corrected to inlet air standard conditions of 99 kPa (29.31 in. Hg) dry barometer and 25° C (77° F) temperature. These values correspond to the standard atmospheric pressure and temperature as shown in SAE J1995.

Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (84.2° F) where the density is 838.9 g/L (7.001 lb/U.S. gal).

The corrected performance values shown for Caterpillar engines will approximate the values obtained when the observed performance data is corrected to SAE J1995, ISO 3046-2, ISO 8665, ISO 2288, ISO 9249, ISO 1585, EEC 80/1269, and DIN 70020 standard reference conditions.