

Image shown may not reflect actual engine

CATERPILLAR ENGINE SPECIFICATIONS

I-6, 4-Stroke-Cycle Diesel

Bore.....	145.0 mm (5.71 in)
Stroke.....	183.0 mm (7.2 in)
Displacement.....	18.1 L (1,104.53 in ³)
Aspiration.....	Turbocharged Aftercooled
Compression Ratio.....	16.3:1
Rotation (from flywheel end).....	Counterclockwise
Weight, Net Dry (approximate).....	1769 kg (3900 lb)

FEATURES

Emissions & Regulations

Meets U.S. EPA Tier 2 and CARB emissions requirements. FM approved. UL listed - US and Canada. Meets NFPA 20 requirements.

Worldwide Supplier Capability

Caterpillar
- Casts engine blocks, heads, cylinder liners, and flywheel housings
- Machines critical components
- Assembles complete engine
- Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities
Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable product.

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.

Full Range of Attachments

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

Unmatched Product Support Offered Through Worldwide Caterpillar Dealer Network

More than 1,800 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 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.

STANDARD ENGINE EQUIPMENT**597 bkW/800 bhp @ 1900 rpm****Air Inlet System**

Dual turbocharger: front and rear inlet,
127.0 mm (5.0 in)
Separate Circuit Aftercooled (SCAC)

Charging System

Charging alternator 24 volt, 50 amp

Control System

Dual Electronic Control Modules (ECMs) - primary
and secondary
Electronic governing, PTO speed control
Programmable ratings
Cold mode start strategy
Automatic altitude compensation
Power compensation for fuel temperature
Programmable low and high idle and total engine
limit (TEL)
Electronic diagnostics and fault logging
Engine monitoring and protection system (speeds,
temperature, pressure)
J1939 Broadcast (diagnostic, engine status and
control)

Cooling System

Thermostats and housing, vertical outlet
Jacket water pump, gear driven, centrifugal
Heat exchanger (installed)
Expansion tank

Exhaust System

Exhaust manifold, dry
Dual turbo: exhaust elbow, dry 203 mm (8 in)

Flywheels and Flywheel Housing

Flywheel, SAE #1
Flywheel housing, SAE #1
SAE standard rotation

Fuel System

Electronic unit injector
Fuel filter, secondary, mid-mount (LH 2 micron high
performance)
Fuel transfer pump, LH front
Fuel priming pump, LH mid-mount
Fuel sample valve, mounted on fuel filter base
Primary filter / water separator

Instrumentation

Instrument panel, LH
Engine oil pressure gauge
Voltmeter gauge
Water temperature gauge
Tachometer / engine hour meter

Lube System

Crankcase breather, front valve cover
Oil cooler, RH (dual)
Oil filter, RH
Oil pan, front sump
Oil filler, LH front
Oil dipstick, LH front
Oil pump

Mounting System

Front and rear support

Power Take-Offs

Flywheel stub shaft

Protection System

Stop-Start System, automatic (compatible with
NFPA 20 requirements, able to be energized from
either of two battery sources and capable of manual
starter actuation)

Starting System

24 volt, LH electric starting motor
Jacket water heater (3 kW, 120-240 volt)

General

Vibration damper and guard
Paint, Caterpillar fire pump red
Lifting eyes
Automatic variable timing, electronic
Electronic installation kit, 70 pin connector
(connectors, pins, sockets)
Literature, Owner and Operator's Manual

PERFORMANCE CURVES**EM0021-01**

Performance curve is not shown since fire pump technical data is published at constant speed (rpm).

Below data is shown from 100% load to 10% load.

Engine Speed rpm	Engine Power kW	Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
1900	597	2998	213.2	151.6
1900	537	2698	215.5	137.9
1900	477	2398	217.8	123.9
1900	447	2248	219.1	116.8
1900	418	2099	220.2	109.6
1900	358	1799	222.8	95.1
1900	298	1499	226.5	80.5
1900	239	1199	232.6	66.2
1900	179	899	243.7	52.0
1900	149	749	252.9	45.0
1900	119	600	270	38.4
1900	60	300	363.6	25.9

PERFORMANCE CURVES

EM0021-01

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Below data is shown from 100% load to 10% load.

Engine Speed rpm

Engine Speed rpm	Engine Power bhp	Engine Torque lb·ft	BSFC lb/bhp-hr	Fuel Rate gal/hr
1900	800	2211	.351	40.0
1900	720	1990	.354	36.4
1900	640	1769	.358	32.7
1900	600	1658	.360	30.9
1900	560	1548	.362	29.0
1900	480	1327	.366	25.1
1900	400	1106	.372	21.3
1900	320	884	.382	17.5
1900	240	663	.401	13.7
1900	200	552	.416	11.9
1900	160	443	.444	10.1
1900	80	221	.598	6.8

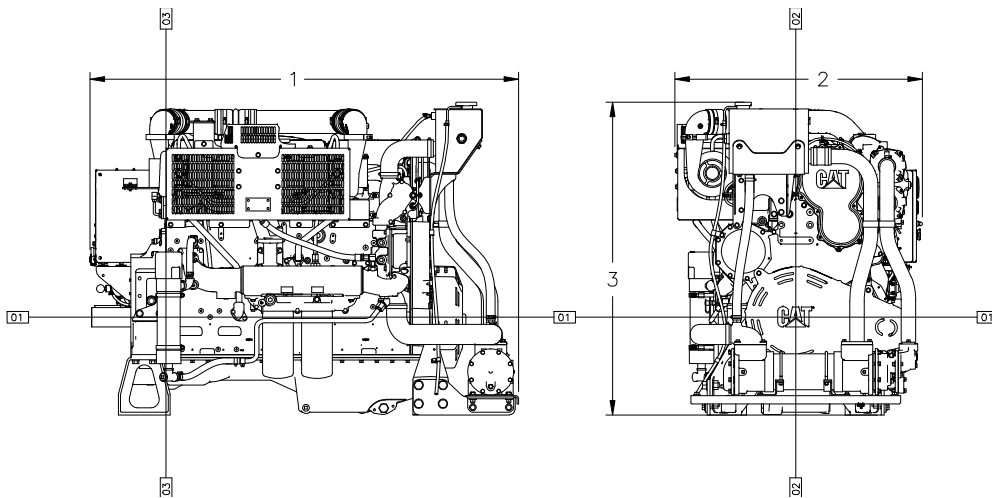
RATINGS AND CONDITIONS

597 bkW/800 bhp @ 1900 rpm

Standby Fire Pump Ratings represent the output which may be utilized to drive stationary fire pumps where the pumping equipment has been sized according to NFPA 20 standards. Engine rating is FM approved and UL listed (US and Canada).

Engine Performance Diesel Engines — 7 liter and higher

All rating conditions are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in. Hg) dry barometer and 25°C (77°F) temperature. 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) with a density of 838.9 g/L.



Engine Dimensions

(1) Length	1889.0 mm (74.37 in)
(2) Width	1091.0 mm (42.95 in)
(3) Height	1379.7 mm (54.32 in)

Note: Do not use for installation design. See general dimension drawings for detail (Drawing #3222516).

Performance Number: EM0021-01

Feature Code: C18DF03 Arr. Number: 3149714

Materials and specifications are subject to change without notice.

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